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Howell Wan

TRANSACTIONS

—OF THE—

MEDICAL SOCIETY

OF THE STATE OF

NORTH CAROLINA.

Forty-Fifth Annual Meeting

——HELD AT——

CHARLOTTE, N. C.,

MAY 3, 4, AND 5, 1898.

WINSTON, N. C.,
CAROLINA PUBLISHING COMPANY, PRINTERS,
1898.

ROSTER OF OFFICERS

—OF THE—

MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

	DATE.	PLACE.	PRESIDENT.	VICE PRESIDENTS.		SECRETARY.	TREASURER.
	1849	Raleigh.	F. J. Hill.			W. H. McKee.	
1	1850	"	Edmund Strudwick.	F. J. Haywood, J. E. Williamson,	C. E. Johnston, W. G. Thomas.	"	W. G. Hill.
2	1851	"	Edmund Strudwick.	C. E. Johnston.		"	"
3	1852	Wilmington.	J. E. Williamson.	Thos. N. Cameron, Johnston B. Jones,	Wm. G. Hill, N. J. Pittman.	E. B. Haywood.	J. J. W. Tucker.
4	1853	Fayetteville.	"	W. G. Hill, J. G. B. Myers,	Johnston B. Jones, N. J. Pittman.	W. W. Harris.	Daniel Dupree.
5	1854	Raleigh.	J. H. Dickson.	N. J. Pittman, J. Graham Tull,	J. G. B. Myers, A. D. McLean.	S. S. Satchwell.	"
6	1855	Salisbury.	"	J. Graham Tull, A. D. McLean,	Owen Hadley, Hugh Kelly.	"	J. B. Dunn.
7	1856	Raleigh.	C. E. Johnston.	Marcellus Whitehead, Johnston B. Jones,	E. R. Gibson, O. F. Manson.	"	"
8	1857	Edenton.	"	Marcellus Whitehead, H. W. Faison,	O. F. Manson, E. T. Gibson.	W. G. Thomas,	"
9	1858	Newbern.	W. H. McKee.	Edward Warren, Caleb Winslow.	C. W. Graham. A. B. Pierce.	"	"

ROSTER OF OFFICERS OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

10	1859	Statesville.	**W. H. Kee.**	Jas. G. Ramsay, J. R. Mercer,	P. E. Hines, W. T. Howard.	W. G. Thomas.	C. W. Graham.
11	1860	Washington.	**N. J. Pitman.**	P. T. Henry, M. Whitehead,	R. H. Winborne, T. S. Leach.	"	"
12	1861	Morganton.	"	J. J. Summerell, G. W. Hodges,	C. T. Murphy, W. A. B. Norcom.	"	"
13	1866	Raleigh.	**J. J. Summerell.**			"	"
14	1867	Tarboro.	**W. G. Thomas.**	E. Burke Haywood, W. L. Barrow,	R. H. Winborne, J. W. Jones.	S. S. Satchwell.	"
15	1868	Warrenton.	**S. S. Satchwell.**	Hugh Kelly, Chas. J. O'Hagan,	Geo. A. Foote, J. H. Baker.	Thos. F. Wood.	J. W. Jones.
16	1869	Salisbury.	**E. Burke Haywood.**	Thos. E. Wilson, C. T. Murphy,	A. B. Pierce. M. A. Locke.	"	"
17	1870	Wilmington.	**C. J. O'Hagan.**	E. A. Anderson, W. R. Sharpe,	F. N. Luckey, R. L. Payne.	"	"
18	1871	Raleigh.	**Hugh Kelly.**	D. N. Patterson, J. B. Seavy,	R. C. Pearson, G. L. Kirby.	"	"
19	1872	Newbern.	**W. G. Hill.**	H. W. Faison, G. H. Macon,	R. I. Hicks, W. A. B. Norcom.	Jas. McKee.	"
20	1873	Statesville.	**M. Whitehead.**	W. T. Ennett, Chas. Duffy,	William Little, T. P. German.	"	H. T. Bahnson.

21	1874	Charlotte.	W. A. B. Norcom.	J. B. Jones, C. G. Cox,	R. F. Lewis, J. L. Knight.	Jas. McKee.	H. T. Bahnson.
22	1875	Wilson.	J. W. Jones.	Walker Debnam, Wm. Little,	J. A. Gibson, D. N. Patterson.	"	"
23	1876	Fayetteville.	Peter E. Hines.	Jos. H. Baker, T. D. Haigh,	G. G. Smith, J. K. Hall.	"	"
24	1877	Salem.	Geo. A. Foote.	J. K. Hall, A. Holmes,	B. W. Robinson, A. A. Hill.	"	A. G. Carr.
25	1878	Goldsboro.	R. L. Payne.	E. M. Rountree, S. B. Flowers,	Richard Anderson, L. A. Stith.	L. J. Picot.	"
26	1879	Greensboro.	Chas. Duffy, Jr.	J. A. Gibson, Jas. McKee,	Willis Alston, A. A. Hill.	"	"
27	1880	Wilmington.	J. F. Shaffner.	J. K. Hall, W. R. Wilson,	W. C. McDuffie, R. F. Lewis.	"	"
28	1881	Asheville.	R. B. Haywood.	J. A. McRee, R. H. Speight,	W. H. Lilly, W. J. H. Bellamy.	"	"
29	1882	Concord.	Thos. F. Wood.	T. J. Moore, S. E. Evans,	D. J. Cain, Jno. McDonald.	"	"
30	1883	Tarborough.	J. K. Hall.	A. W. Knox, E. S. Foster,	J. M. Hadley, Jno. Whitehead.	"	"
31	1884	Raleigh.	A. B. Pierce.	F. W. Potter, R. Dillard,	G. W. Graham, G. W. Long.	"	"

ROSTER OF OFFICERS OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

32	1885	Durham.	**W. C. McDuffie.**	Jas. McKee, T. E. Anderson, W. H. Whitehead, A. G. Carr.	W. C. Murphy.	R. L. Payne, Jr.
33	1886	Newbern.	**Jos. Graham.**	H. T. Bahnson, L. J. Picot, J. L. McMillan, W. W. Faison.	"	C. M. Poole.
34	1887	Charlotte.	**H. T. Bahnson.**	G. G. Smith, J. L. Nicholson, C. M. Poole, H. B. Ferguson.	"	"
35	1888	Fayetteville.	**T. D. Haigh.**	W. T. Ennett, J. A. Dunn, T. E. Anderson.	J. M. Baker.	"
36	1889	Elizabeth City.	**W. T. Ennett.**	W. J. Jones, S. W. Stevenson, G. W. Long.	"	"
37	1890	Oxford.	**G. G. Thomas.**	R. L. Payne, Jr., Richard Dillard, S. D. Booth.	J. M. Hays.	"
38	1891	Asheville.	**R. H. Lewis.**	S. W. Battle, J. L. Nicholson, W. H. Lilly.	"	"
39	1892	Wilmington.	**W. T. Cheatham.**	T. S. Burbank, J. W. Long, W. H. H. Cobb, W. D. Hilliard.	"	"
40	1893	Raleigh.	**J. W. McNeill.**	W. C. Galloway, H. H. Harris, J. M. Hadley, Thos. Hill.	R. D. Jewett.	M. P. Perry.
41	1894	Greensboro.	**W. H. H. Cobb.**	J. A. Hodges, R. W. Tate, Willis Alston, M. H. Fletcher.	"	"
42	1895	Goldsboro.	**J. H. Tucker.**	J. H. Way, W. H. Harrell, O. McMullan, C. A. Meisenheimer.	"	"

ROSTER OF OFFICERS OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

43	1896	Winston-Salem.	**R. L. Payne.**	S. D. Booth, J. A. Burroughs,	J. P. Munroe, J. E. Grimsley.	R. D. Jewett.	M. P. Perry.
44	1897	Morehead City.	**P. L. Murphy.**	J. C. Walton, M. R. Adams,	A. A. Kent, B. L. Long.	"	"
45	1898	Charlotte.	**Francis Duffy.**	E. C. Register, J. B. H. Knight,	A. T. Cotten, F. H. Russell.	"	"

BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA.

JAMES H. DICKSON, Wilmington.....1859–1866
Charles E. Johnson, Raleigh.....1859–1866
Caleb Winslow, Hertford.....1859–1866
Otis F. Manson, Townsville.....1859–1866
Wm. H. McKee, Raleigh.....1859–1866
Christopher Happoldt, Morganton.....1859–1866
J. Graham Tull, Newbern.....1859–1866
SAMUEL T. IREDELL, Secretary.....1859–1866
N. J. PITTMAN, Tarborough.....1866–1872
E. Burke Haywood, Raleigh.....1866–1872
R. H. Winborne, Edenton.....1866–1872
S. S. Satchwell, Rocky Point.....1866–1872
J. J. Summerell, Salisbury.....1866–1872
R. B. Haywood, Raleigh.....1866–1872
M. Whitehead, Salisbury.....1866–1868
J. F. Shaffner, Salem.....1866–1872
WM. LITTLE, Secretary.....1868–1872
CHAS. J. O'HAGAN, Greenville.....1872–1878
W. A. B. Norcom, Edenton.....1872–1878
C. Tate Murphy, Clinton.....1872–1878
Geo. A. Foote, Warrenton.....1872–1878
J. W. Jones, Tarborough.....1872–1878
R. L. Payne, Lexington.....1872–1878
CHAS. DUFFY, JR., Newbern.....1872–1878
P. E. HINES, Raleigh.....1878–1884
T. D. Haigh, Fayetteville.....1878–1884
R. I. Hicks, Williamsboro.....1878–1880
Geo. L. Kirby, Goldsboro.....1878–1884
Thos. F. Wood, Wilmington.....1878–1884
Jos. Graham, Charlotte.....1878–1884
H. T. BAHNSON, Salem.....1878–1884
R. H. Lewis, Raleigh.....1880–1884
WM. R. WOOD, Scotland Neck.....1884–1890
A. W. Knox, Raleigh.....1884–1890
Francis Duffy, Newbern.....1884–1890
P. L. Murphy, Morganton.....1884–1890
Willis Alston, Littleton.....1884–1890
W. J. H. BELLAMY, Wilmington.....1884–1890
J. A. Reagan, Weaverville.....1884–1890
R. L. Payne, Jr., Lexington.....1890–1892

BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA.

Geo. W. Purefoy, Asheville	1890–1892
Geo. G. Thomas, Wilmington	1890–1894
Robt. S. Young, Concord	1890–1894
Geo. W. Long, Graham	1890–1896
W. H. WHITEHEAD, Rocky Mount	1890–1896
L. J. PICOT, Littleton	1890–1896
JULIAN M. BAKER, Tarboro	1892–1898
H. B. WEAVER, Asheville	1892–1898
T. S. Burbank, Wilmington	1894–1900
J. M. Hays,* Greensboro	1894–1897
D. T. TAYLOE, Washington	1896–1902
R. H. Whitehead,† Chapel Hill	1896–1897
THOS. E. ANDERSON, Statesville	1896–1902
Kemp P. Battle, Raleigh	1897–1900
W. H. H. Cobb, Goldsboro	1898–1900
J. Howell Way, Waynesville	1897–1902
Albert Anderson, Wilson	1898–1902
E. C. Register, Charlotte	1898–1902

*Died.

†Resigned.

NOTE.—The names of members who served as President appear in CAPS; of those who served as Secretary in SMALL CAPS.

OFFICERS AND COMMITTEES.

SESSION 1898.

PRESIDENT.

Francis Duffy, M.D., Newbern.

VICE PRESIDENTS.

E. C. Register, M.D., Charlotte.
J. B. H. Knight, M.D., Williamston.
A. T. Cotten, M.D., Morrisville.
F. H. Russell, M.D., Wilmington.

SECRETARY.

R. D. Jewett, M.D., Winston.

TREASURER.

M. P. Perry, M.D., Macon.

ORATOR.

Albert Anderson, M.D., Wilson.

ESSAYIST.

H. A. Royster, M.D., Raleigh.

BOARD OF CENSORS. (Expire 1898.)

W. O. McDowell, M.D., Scotland Neck.
H. H. Harris, M.D., Wake Forest.
J. H. Tucker, M.D., Henderson.

PUBLICATION.

R. J. Brevard, M.D., Charlotte.
E. C. Register, M.D., "
R. D. Jewett, M.D., Winston.
G. G. Thomas, Wilmington.

NECROLOGY.

G. W. Long, M.D., Graham.
J. A. Reagan, M.D., Weaverville.
Kemp P. Battle, M.D., Raleigh.

PROGRAMME

FORTY-FIFTH ANNUAL MEETING

OF THE

MEDICAL SOCIETY

OF THE

STATE OF NORTH CAROLINA.

CHARLOTTE, MAY 3, 4 and 5, 1898.

[SESSIONS WILL BE HELD IN THE COURT HOUSE.]

Railroads and Hotels have made reduced rates for this meeting. Application for special round trip rates should be made by all purchasers of tickets at the points where the tickets are purchased.

FIRST DAY—MORNING.

10:30 a. m.

Society called to order by Dr. R. J. Brevard, Chairman Committee of Arrangements.
Prayer. By A. C. Barron, M.D.
Address of Welcome. By C. W. Tillet, Esq.
Response by Dr. J. Howell Way.
Society called to order for transaction of business by the President, Dr. Francis Duffy, of Newbern.
President's Address.
Roll Call.
Appointment of Committee on Credentials.
" " Finance.

Medical Jurisprudence and State Medicine.

J. S. BROWN, M.D., Chairman—Report.
GEO. W. LONG, M.D.,—Subject not announced.
J. HOWELL WAY, M.D.,—"Expert Medical Witnesses: What is the Cause of the seeming Disrepute in which their Testimony is held in Certain Recent Cases in the Courts?—Observations from the Standpoint of the Country Doctor."

Pathology and Microscopy.

W. T. PATE, M.D., Chairman—Report.
Other papers on above sections.
Reports of Committees.
Unfinished business.
New business.
Adjournment.

1ST DAY—AFTERNOON.

3 p. m.

Society called to order.

Gynecology.

R. S. PRIMROSE, M.D., Chairman—Report.
H. S. LOTT, M.D.,—"Meddlesome Gynecology."

Practice of Medicine.

M. H. FLETCHER, M.D., Chairman—Report.
W. C. BROWNSON, M.D.,—"The Tobacco Habit as a Cause of Disease."
C. L. MINOR, M.D.,—"What Should be the Attitude of the General Practitioner To-day Toward Serum Therapy?"
G. S. Tennant, M.D.,—"Uric Acid in the Causation of Retinal and Choroidal Disease."
CHAS. B. MCANNALLY, M.D.,—"A Short Bedside Experience with Fevers Common to North Carolina.
Other papers on above sections.
Reports of Committees

Unfinished business.
New business.
Adjournment.

1ST DAY—EVENING.

8:30 p. m.

Society called to order.

Obstetrics.

W. G. STAFFORD, M.D., Chairman—Report.
H. S. LOTT, M.D.,—"Treatment of the Umbilical Cord without Ligature."
H. A. ROYSTER, M.D.,—Subject not announced.
T. S. MCMULLAN, M.D.,—Subject not announced.
E. F. STRICKLAND, M.D.,—"Three Interesting Cases of Obstetrics."
J. P. MUNROE, M.D.,—"Some Observations on the Radical Cure of Inguinal Hernia, with Report of an Interesting Case. [Illustrated by Stereoptican.]
Other papers on above sections.
Reports of Committees.
Unfinished business.
New business.
Adjournment.

2D DAY—MORNING.

10 a. m.

Society called to order.
Appointment of Nominating Committee.

Anatomy and Surgery.

JAMES M. PARROTT, M.D., Chairman—"Remarks on the Country Surgeon and His Work."
J. C. WALTON, M.D.,—"Report of a Case of Osteo-sarcoma treated with the Toxins of Erysipelas and Bacillus Prodigiosus."
D. A. STANTON, M.D.,—"Apparatus for the Treatment of Fracture of the Femur in Small Children."
R. L. PAYNE, M.D.,—Subject not announced.
K. P. BATTLE, M.D.,—"A Shawl Pin in the Trachea."
F. T. MERIWETHER, M.D.,—"The Diagnosis of Appendicitis, with Some Remarks upon its Treatment."
11:00 o'clock—Special order—Election of members to the State Board of Medical Examiners.
12:00 o'clock—Special order—Conjoint Session with North Carolina Board of Health.
Adjournment.

2D DAY—AFTERNOON.

3 o'clock.

Society called to order.
Reports of Committees.

Materia Medica and Therapeutics.

A. J. CROWELL, M.D., Chairman—"Modern Therapeutics."

R. H. MCGINNIS, M.D.,—"Some Thoughts about Typhoid Fever."

D. J. HILL, M.D.,—"Veratrum Viride, with Especial Reference to Its Therapeutic Uses in Serous and Parenchymatous Inflammations."

Other papers on above sections.

Selection of Time and Place of next meeting.

Election of officers.

Report of Nominating Committee.

Chemistry and Physiology.

J. G. BLOUNT, M.D., Chairman—"Chemistry of the Stomache."

Unfinished business.

New business.

Adjournment.

2D DAY—EVENING.

8:30 p. m.

Annual Oration.

ALBERT ANDERSON, M.D.—"Two Southern Pioneer Heroes in Surgery and Gynecology.

Annual Essay.

HUBERT A. ROYSTER, M.D.

3rd DAY—MORNING.

10 a. m.

Society called to order.

Annual Debate.

JAMES C. BURROUGHS, M.D., Leader—"A Few Suggestions on the Prevention of Tuberculosis."

Voluntary Papers and Papers omitted from Programme.

Verbal reports and exhibition of Cases.

Installment of Officers.

Appointment of Chairmen of Sections.

Unfinished business.

New business.

Final Adjournment.

OFFICERS.

PRESIDENT—FRANCIS DUFFY, M.D., Newbern.

VICE PRESIDENTS.

E. C. REGISTER, M.D., Charlotte. J. B. H. KNIGHT, M.D., Williamston.

A. T. COTTEN, M.D., Morrisville. F. H. RUSSELL, M.D., Wilmington.

SECRETARY—R. D. JEWETT, M.D., Winston

TREASURER—M. P. PERRY, M.D., Macon.

MINUTES

—OF THE—

FORTY-FIFTH ANNUAL MEETING

—OF THE—

Medical Society of the State of North Carolina.

FIRST DAY—MORNING SESSION.

CHARLOTTE, N. C., May 3, 1898.

The 45 annual meeting of the Medical Society of the State of North Carolina was convened in the Court House of Charlotte, May 3, 1898, President Francis Duffy, of Newbern, in the chair.

The Society was called to order by Dr. R. J. Brevard, chairman committee of arrangements.

After a prayer by A. D. Barron, D. D., C. W. Tillett, Esq., of Charlotte, made the following

ADDRESS OF WELCOME:

Ladies and Gentlemen of the North Carolina Medical Society:

The first thing I ever saw in my life was a doctor. It seems that he had promised that I would be a girl, and when I arrived on the scene of action, he was very much disappointed and looked very angry at me, whereupon, if I remember aright, I got mad and twisted up my little face and hollered at him as loud as I could. That seemed to bring him to his senses and he apologized and said I was a fine boy, and we shook hands and from that day to this I have been on the most excellent terms with the doctors. The fact is, that I liked them so well that

when I arrived at the age of discretion nothing would suit me but that I must have a doctor's daughter for my wife. You will believe me then, when I say that I am very much gratified at the honor which the Medical Society of this city conferred upon me in requesting me to represent them in extending to you a most hearty welcome for them and in telling you how much delighted the whole city is to have your Society meet here. The doctors of the city are really and truly glad to see you, and if the doctors are glad to see you, by how much more are the laymen pleased? I fear it will be difficult for me to tell you how much pleased the laity of the city are to know that they have in their midst scores of the foremost physicians of the State making us visits, and just to think that for once in our lives, it will not be $2 per visit.

Your profession as physicians and ours as lawyers are closely identified. We meet particularly upon the common platform of medical jurisprudence, and the lawyers have often to call upon the doctors as witnesses in court. Sometimes we have one doctor pitted against another in the court house, and when we have battles between both the lawyers and the doctors at the same time it makes a very interesting occasion. I remember once when preparing to demolish the opposite side in a case, I ran up my torpedo boat in the shape of a doctor witness close to the flagship of the enemy and was in the act of blowing it up as I thought, when all of a sudden there came up on my flank in the shape of a doctor witness, a torpedo destroyer, and—well, you know what happened. The jury of investigation which sat on the case brought in a report that my destruction was accomplished by an external explosion which was caused by an expert. We, of the legal profession, are called upon from time to time to study almost every phase of the Medical Science in the preparation of our cases for trial. A short time ago we had in this city a case in court which involved the question as to what was the origin of malaria. The lawyers borrowed from the doctors all of the medical works on the subject of malaria that they could and studied them so diligently that when the case came on for trial, I could say without disparaging our doctors, that the lawyers knew as much, theoretically speaking, about malaria as the doctors did. In fact, I heard one of the doctors say that the next case of malaria he

had, he intended to call in one of the lawyers as consulting physician. You need not be alarmed about that for I can tell you now that if the lawyer should undertake to prescribe for a case of malaria, he would "fling it into fits" and then you would get the job certain, for while I have seen lawyers who could give a man fits, I never saw one who could cure it.

Gentlemen, the city of Charlotte is yours, and all that we possess while you are here is at your command. And I might pause to tell you into what great possessions you have come; I might tell you of our manly men and womenly women; of our pluck and enterprise; of our many and diversified industries; of our beautiful streets and elegant homes; I might tell you that the city of Charlotte in the last ten years has more than doubled her population, and has forged her way far in advance of any other city in the Old North State; but I am afraid to bear down too heavy upon this point for it might come to pass that about one-half of you doctors would decide to locate here for the practice of your profession, and if my speech should accomplish such a result as that, our home doctors would say that I had overdone the thing, and they would never invite me again to deliver their address of welcome. More than that it might happen that you would go home and tell your lawyer friends what I had said about the greatness of Charlotte and they too would come trooping in and settle here to divide up the law practic which is already subjected to long division. So it has been suggested to me that I hint to you in a round about way that while Charlotte is undoubted a thrifty and popular city it is also an exceedingly healthy one. But I might as well be frank with you gentlemen and say without any circumlocution that while we are more than glad to have you here and hope that you will have a delightful time, still we do not expect you to spend your life time in our midst.

Gentlemen, as I have already said, the city is yours, and I would like to suggest that the motto for the assemblage be this "If you do not see what you want, ask for it." It is said that among the Fallaheens of the Desert, noted for their unbounded hospitality, it is not considered proper to ask a guest to partake of anything at all, until he at first signifies that he wishes it, but when the request is once made by the guest the thing asked for, must be had at once and at all hazards. An artist writer tells

the story that he recently visited a shiek of the Fallaheens and went out one morning to paint a picture of a quaint and beautiful cemetery when he said to the Shiek at his side: "This is a most beautiful scene for picture, but one thing is lacking." "What is that?" asked the Shiek. The artist replied: "It lacks a funeral procession coming in to bury the dead to make the picture complete." "Hold on," said the Shiek, "I know a man in the village who is about to die, and I will go and hurry him up." Before the artist could remonstrate, the Shiek was off and created such a bluster and excitement around the sick man's house that he died in a few minutes, and in less than two hours the Shiek had a genuine funeral procession going to the cemetery and the artist's picture was complete. Gentlemen, look around you, if you do not see what you want, ask for it. Go down to our beautiful cemetery and if you decide you would like to see how we bury our dead, I can assure you that any of our home doctors can get up a funeral in a very short time. But I should apologize for that. I have been told that it is not good form to speak of funerals in the presence of doctors. They say that it is an embarrassing subject and I really am sorry that I had anything to say about it.

I trust that while you are here that the members of your Society will enjoy good health, but if any of you get sick I should like to know of it—not only because I desire to show attention to a sick guest, but for the additional reason that I desire to know if a sick doctor takes any medicine. There is, you know, a deep-seated conviction that you doctors do not take any of your own medicine. So far as my own experience goes I can say that while I have seen doctors taste medicine and smell medicine, I have never seen one take a *bona fide* dose of it. Since I have lived in Charlotte, I have sat up all night with two of our most prominent physicians, who were sick, and I can only say that according to my recollection, I never saw either one take a single drop of medicine. Charles Dickens more than fifty years ago called attention to this fact that doctors do not take medicine. It is true that he said something in this same connection about lawyers not having lawsuits, and said that "lawyers were shy of meddling with the law on their own account, well knowing that it was an edged tool of uncertain

application, and very expensive in its operation and rather remarkable for its properties of close shaving than of always shaving the right person." But that was a fling at the lawyers that was unworthy of Dickens and I will take occasion to refute it at some other time. I am impressing you now with what he said about doctors, and if what he said is not true I would like for you to refute it, and if it is true I would like for you to explain it.

And just here comes a part of my speech which it seems to me I will have to omit. I had begun the preparation of this while the President was about to call for volunteers and I expected about one half of you doctors would respond to the call and that your meeting would be a sad one owing to the absence of members who had gone to Cuba. I had prepared some very touching remarks which I thought well calculated to bring you to tears but as I find that your ranks are still intact I think that part of my speech would fall flat and I will have to omit it and ask leave to print it. Of the crowd that went from this place on yesterday, only one doctor went and only one lawyer, and he was from a distant county, all of which goes to show that the doctors and the lawyers are not anxious to get in the way of the enemy's bullets. I am reminded of the story of a great orator who just before the breaking out of the last war was exhorting the men of his audience to fight and die for their country, and in the climax he quoted that beautiful line from Horace: "*Dulce et decorum est patria mort*"; whereupon one of his auditors arose and asked the speaker that if it was such a sweet and honorable thing to die for one's country, why did he not go to the front. "That" said the orator "is very easily explained, I never was fond of sweet things!" And gentleman, while we all agree that it is sweet to die for one's native land, not many of us appear to be fond of sweet things.

But speaking seriously there is no body of men in all the State that could present a more interesting spectacle than this Medical Society. I say this, not only because the men before me are men of education, position, and men whose whole lives in a measure are devoted to charity and good works, but I am proud of you because of your fidelity and ability in your profession. I see before me men in whose breasts are locked up the secrets

of hundreds of homes throughout the country. It is said that there is a skeleton in every closet, and if so, it happens ninety-nine times in a hundred that the family physician is the only outsider who has ever looked upon that skeleton. If the seal upon your lips were broken and you were to tell the plain facts within your knowledge of the family secrets you know there would be a consternation all over the State a thousand fold greater than that caused by the blowing up of the Maine. More than that you go into the innermost recesses of out homes. You are admitted where none but the doctor can go and have about you opportunities not to say temptations to wrong, and I say all glory to the Medical Society of North Carolina, for while doctors of other States have wrecked homes and broken hearts there is not a member of this Society so far as I know, who has been guilty of a breach of professional confidence.

But gentlemen, the thing that moves me most, as I look into your earnest faces today, is the thought of what you have been through since you last met. I love to look at the ragged remnant of the old regiment, and it stirs me to think of the awful battles and fierce conflicts through which they have come, but these men fought with enemies of flesh and blood like themseves, while the battalion which I see before me has been in daily conflict with the most fearful foe of mankind. In the gray dawn of the morning, in the heat of the noonday sun, through the long weary watches of the night, in the mountain fastnesses of the West, in the boggs and marshes of the eastern plains, anywhere, everywhere, you have pursued the Rider of the Pale Horse. Sometimes you have seen him bearing his victim in the distance down into the shadows of the great darkness and you have hotly pursued him to where the gates of death were creaking on their black hinges to let him in and you seized him and brought him back to light and life and health again.

The men here who have had the most awful conflicts are, I doubt not, the country doctors. God bless the country doctors! The whole world and particularly the medical profession owe Ian Maclaren a debt of immeasureable gratitude for telling us of William McLure and how he lived and how he died. I doubt not that some country doctor here has been in hand to hand battles with the dread enemy of mankind and far away in the country, twenty-five miles it may be from any brother physician,

all night long, he has fought alone the "fight for life" as brave a heart and as true a nerve, as beat in the hearts of the Light Brigade at bloody Balaklava.

Gentlemen, I am fully persuaded that the world does not know one half of what it owes to your Medical Society. The man of average intelligence knows who the great warriors, the great explorers, orators, the scientists of the world have been, but very few indeed know who the great doctors are, and what they have done for mankind. There are a hundred men who know David Livingstone, explorer, to one who knows William Harvey, doctor; and yet when Harvey discovered the circulation of the blood and that the heart was the source from which it was pumped forth and back again, he did a thousand told more for humanity than did Livingstone when he discovered the source of the Nile, and brought to light the wonders of darkest Africa. There a hundred men who know the Duke of Wellington, warrior, to one that knows Edward Jenner, physician, and yet no one can deny that when Jenner put smallpox to flight with a drop of vaccine, that he did a thousand fold more for humanity than did the Iron Duke when he swept the proud Corsican and the Imperial Guard from the fateful field of Waterloo. Gentlemen, the world knows its other heroes and why should it not knw of the heroes of medicine? You owe to the world and to the great men of your profession who have wrought such wonders, to keep their deeds ever in the remembrance of the men. You should call the roll of the great doctors from time to time and tell of their benificent deeds. I commend to you the beautiful way in which the Peruvians keep alive the memory of one of their great warriors. In the war with Chili the naval commander of the Peruvians was Admiral Grau, as brave an officer as ever commanded a fleet. In his last battle he commanded the iron-clad Huascar. It was engaged in deadly conflict with the Chilian war vessel and was about to sink her when another Chillian vessel came up on the other side of the Huascar and poured into her a perfect hell of shot and shell. The courageous Grau, not seeking a place of safety and not contemplating surrender, went aloft where the dangers were the thickest but where he could best give his command. Above the din and roar of battle his clarion voice was heard giving commands, but

finally, it was hushed. An officer going aloft found his lifeless body stretched upon the floor, his head severed as tho' amputated by the surgeon's knife. Does Peru allow his name to be forgotten? Not so, but they tell that on every muster day, tho' the brave admiral has been dead for twenty years, his name is the first to be called on the roll, and when the name of Admiral Miguel Grau is called an officer steps forward and taking off his cap points with one hand above and answers: "Absent but accounted for, he is among the heroes!" I commend to you, gentlemen, this beautiful story, and ask that from time to time in your Society you call the roll of those who have done so much in alleviating the woes and sorrows of suffering humanity, and let some one rise and tell afresh the story of their greatness.

Dr. J. Howell Way, made the following:

RESPONSE.

On behalf of my confreres of the North Carolina State Medical Society I thank you most sincerely for the eloquent words of gracious welcome to which we have just listened. And in doing so, it is with regret that for the present moment at least, I cannot lose my personality as a plain country doctor more given to work and action than to the evolution and delivery of eloquent words or oratorically turned phrases, and become endowed with the gifted tongue of a Depew or a Grady; so needful were I to essay to express in language our appreciation of your cordial reception.

The members of the Medical Society are no strangers to the splendid hospitality that has ever been characteristic of the noble sons and gifted daughters of Mecklenburg. Twice before in the forty-nine years of our Society's existence have we been your honored guests. In 1874, near a quarter of a century ago, the doctors knocked at your hospitable gates and were made welcome. Upon which memorable occasion, your spokesman, that most illustrious of Carolina's sons, the immortal Vance, after assuring us that we were thrice welcome, and placing at our entire disposal the homes, the property, and all other of the material valuables of your charming city, in return only gravely asked that we permit you to escape with your lives.

Again in 1887, it was the happy fortune of the Society to visit you when the agreeable experiences of the former visit

were more than repeated. And now in this year of grace, 1898, in experiencing the charms of our third visit we feel that most opportune is our selection of the Queen City for our annual convocation. Queen City! sir, not only in that it is named for the beautiful princess Charlotte of Mecklenburg, but Queen City in that Charlotte stands pre-eminent among the cities of our loved State in her civic pride, in her progressive spirit, in her constant upward and onward march toward the goal of all that makes a municipality great and powerful and its citizens respected; pre-eminent in the cultivation in the bosoms of its noble population of that love of virtue, of patriotism, and of liberty which has ever been the priceless heritage, and as ever the constant attributes of her manly sons and beautiful daughters.

Opportune indeed is our assembling here upon the historic site of Old Queen's Museum in Mecklenburg, within a few days of the unveiling of that splendid shaft of granite which rising heavenward shall stand an object lesson in patriotism to the children of future generations, inculcating them with love of country and respect for the heroic deeds of their illustrious ancestors; and forever immortalizing the distinguished bravery, and the pure patriotism of those noble sons of Carolina, who in the dark and troublous days of 1775, gathered here and hung out to the enlightenment of the world the beacon light of liberty that cast the first luminous rays across the American Continent dispelling the universal darkness of oppression enshrouding the new world. In passing, it thrills the patriotic impulses of all hearts to note that the spirit of 1775 still lives in the hearts of the American people, and that it shall animate them, in noble emulation of our gallant Southern Fitz Hugh Lee, and Dewey the peerless of Manilla Bay, (applause) to continued patriotic action, which will see no end until Cuba Libre breathes the sweet air of freedom, and the now faint and glimmering light of her one struggling star shall have its effulgence brightened and beautified as it blends into the forty-sixth in the grand constellation of the States of the great American republic.

I refer to these things knowing as I do, that in the hearts of no class of our citizens is there a greater degree of patriotism than in those of the members of the medical profession. No portion

of our citizens are in so intimate a social contact with all classes and conditions of society as the doctor in his daily rounds dispensing mercy's kindly ministrations, into the homes of the rich aand poor, the high and low, the strong and the weak, the learned savant and the illiterate. The saint and the sinner alike receive his attention, none, so low the doctor will not, in humble imitation of the Great Physician, stoop to succor; none so high his service can dispense with. Whether in the luxurious offices of the opulet metropolitan consultant, a Gross, a Flint, an Agnew, or a Sir Andrew Clark, or as the Carolina prototype of good old Doctor MacLure, of Drumtochty fame, plodding along the banks of the Cape Fear or Catawba, or the more sparkling waters of the Swannannoa or Pigeon, as an humble country doctor—where ere his lot be cast, the doctor lives in closest sympathy with humanity, and that which touches his fellow-man alike impresses him.

Is it to be wondered at that the family physician should be the chosen trusted friend? And this close confidential relation around the sanctity of which, both the law of the land and the unwritten higher law of public sentiment, has thrown a veil through which no curious or peering eyes may its secrets disclose, imposes upon the members of our profession weighty responsibilities and important duties to be most seriously considered. How well we have in North Carolina discharged these responsibilities in the past, our magnificent and splendidly officered institutions for the care of society's unfortunates; our State Board of Medical Examiners (the model from which almost every other State in the Union is now copying!), our State, county and municipal boards of health; our laws regarding epidemics and the regulations affecting contagious and infectious disease; the general and constant dissemination of valuable information among the people upon the vital subject of how best to live, to promote health, to attain longevity—the resultant ever increasing length in the average of human life—all these attest whether our physicians have well-borne the weightier responsibilities imposed on them by society at large and by the State!

But Sir, I stand not here today to express to you extreme laudation of the North Carolina doctors for the honesty of pur-

pose and the sincerity of action which have ever been the common characteracteristics of the members of our most noble of professions. Nor is it my province to indulge in fulsome eulogy of the energy, the progressiveness, the public-spiritedness, or the bravery, of the chivalrous sons, nor the grace, the wit, the beauty, the lovliness, or the true feminine worth of the accomplished daughters, of Mecklenburg. All these things are known of all men, for them your men are everywhere respected and honored, your lovely women alike adored and worshiped.

I thank you in the name of my colleagues for your most generous welcome, and assure you that as we return to our homes a day or two hence to resume the active duties and the varied responsibilities of our busy professional lives, that each of us will carry away from Charlotte, ineffably imprinted upon our hearts, a most pleasant remembrance of the Queen City and her truly regal people.

The roll was then called by the Secretary. Members present will be indicated in alphabetical list of members.

The following committees were appointed: On Credentials, Drs. J. C. Montgomery, T. M. Jordan, and A. A. Kent.; on Finance, Drs. C. M. Poole, Albert Anderson, and R. L. Gibbon.

Dr. J. S. Browm, chairman of section on Medical Jurisprudence and State Medicine read his report. Discussed by Drs. Long, Burroughs, McMullan, and Carr.

Dr. Carr offered the following resolution:

Resolved, That the Medical Society of North Carolina, in convention assembled in the city of Charlotte, May 3, 1898, expresses its unqualified disapproval of the Antivivisestion Bill, now pending before Congress, and that the President of this Society appoint a committee of three to memorialize our Senators and Representatives in Congress to use all honorable means to defeat its passage.

The President appointed on this committee, Drs. A. G. Carr, G. W. Long and P. E. Hines.

Dr. W. T. Pate, Chairman of section on Pathology and Microscopy, made his report.

On motion the Society adjourned to meet at 3:30 o'clock.

FIRST DAY—AFTERNOON.

Dr. H. S. Lott, read a paper entitled

MEDDLESOME GYNECALOGY.

Discussed by Drs. McMullan, McGuire, Sikes and Royster.

Dr. Fletcher, Chairman of section on Practice of Medicine, made his report.

Dr. W. C. Brownson read a paper on

THE TOBACCO HABIT AS A CAUSE OF DISEASE.

Dr. J. A. Burroughs, Leader of Debate, opened the Annual Discussion by reading a well prepared paper entitled

A FEW SUGGESTIONS ON THE PREVENTION OF TUBERCULOSIS.

Drs. A. A. Kent, R. H. Lewis, J. W. Long, J. A. Reagan, Albert Anderson, Spencer and others took part in the decision.

Dr. G. S. Tennant read a paper on Uric Acid in the Causation of Retinal and Choroidal Disease.

On motion, the Society adjourned.

FIRST DAY—EVENING SESSION.

Dr. W. G. Stafford, Chairman of Section on Obstetrics, made his report.

Dr. H. S. Lott read a paper on "Treatment of Umbilical Cord without Ligature." Discussed by Drs. Stafford, Burroughs, Hays, Hines, McMullan, O'Hagan, and Kent.

Dr. E. F. Strickland read a paper on "Three Interesting Cases of Obstetrics."

Dr. J. P. Munroe presented a paper entitled "Some Observations on the Radical Cure of Inguinal Hornia, with Report of an Interesting Case." At the close of his paper he presented stereopticon pictures illustrating the various steps in the operation. Dr. Flippin discussed the paper.

The Society adjourned to meet the next morning at 10 o'clock.

SECOND DAY—MORNING SESSION.

The Society met at 10 o'clock and was called to order by the President, who appointed the following nominating committee:

Drs. O'Hagan, W. H. H. Cobb, W. P. Ivey, A. G. Carr, and H. H. Dodson.

Dr. R. L. Payne read a paper on Abortion, which was discussed by Drs. Hines and Jordan.

Dr. Long made the following report on President's Address:

Your Committee appointed to take into consideration the suggestions contained in the President's Address, desire to report as follows. We approve the following suggestions: An earlier meeting of the Medical Examining Board in order that its licentiates may have an opportunity of joining the Society, and as a further inducement, we heartily recommend that the usual initiation fee ($5.00) be remitted to those licentiates who join the State Medical Society the same year that they receive their licenses. Furthermore, as cognate to this subject and in order that we may enlist the sympathy of all legal practitioners of the State, we recommend that any such physicians who shall be vouched for by the physicians already members of this Society, and who shall accompany his application with the usual five dollar fee and shall sign the Constitution by power of attorney invested in one of the recommending physicians shall be eligible for membership, provided such action be confirmed by a majority of the Society.

R. J. BREVARD,
OSCAR McMULLAN,
GEO. W. LONG.

Action on the report was postponed.

Dr. C. L. Minor read a paper entitled "What Should be the Attitude of the Profession towards Serum Therapy." Discussed by Dr. Burroughs, Dr. Levy, of Virginia, Dr. Reynolds.

The time having arrived for the special order of electing two members to the Board of Examiners to fill the places of Dr. Weaver and Dr. Baker, whose terms expired with this meeting. Drs. Albert Anderson, E. C. Register and M. H. Fletcher were put in nomination. Drs. H. A. Royster, T. S. McMullan, A. J. Crowell, and B. K. Hays were appointed tellers, the vote was taken, and Drs. Anderson and Register were elected, both having received a majority of the votes cast.

On motion of Dr. J. Allison Hodges, the following were made honorary fellows of the Society, having been active members of the Society for thirty years or more: Dr. Robert Gibbon, Dr. Allman Holmes, Dr. Peter E. Hines, Dr. R. H. Winborne, Dr. Geo. A. Foote, Dr. Eugene Grissom, Dr. W. J. Jones, Dr. Chas. J. O'Hagan, Dr. J. W. Jones, Dr. J. K. Ruffin, Dr. Wm. R. Wood, Dr. P. A. Barrier, Dr. Geo. L. Kirby,

Dr. J. F. Shaffner, Dr. W. T. Cheatham, Dr. F. J. Haywood, Dr. P. B. Alston.

On motion of Dr. O'Hagan, Dr. W. L. Robinson, of Danville, Va., was elected an Honorary member of the Society. Dr. Robinson accepted the courtesy in a few well chosen remarks.

The special hour having arrived, the Conjoint Session of the Board of Health was called, and in the absence of the President, Dr. S. Westray Battle took the chair. The Secretary read his report, which, after a full discussion, was ordered printed.

Dr. R. H. Lewis offered the following resolution, which was adopted:

Resolved, That the North Carolina Board of Health and the Medical Society of the State of North Carolina in conjoint session assembled endorse the Caffery bill, enlarging the powers of the U. S. Marine Hospital Service, and respectfully request our Senators and Representatives to support the same.

The session was then adjourned.

SECOND DAY—AFTERNOON SESSION.

The Society was called to order by the President.

A paper on "A Case of Osteo-Sarcoma Treated with the Toxins of Erysipelas and Bacillus Prodigiosus" was read by Dr. J. C. Walton, of Reidsville. Discussed by Dr. Robinson and Dr. Jewett.

Dr. K. P. Battle then read a paper on "A Shawl Pin in the Trachea." Discussed by Dr. Galloway, Dr. Payne, Dr. Carr, Dr. Faison, and Dr. Costner and others who cited cases in point.

Dr. R. H. McGinnis read a paper on "Some Thoughts about Typhoid Fever." By request, Dr. Taylor of Richmond discussed the surgery of typhoid fever.

The selection of place of next meeting being next in order, Asheville, Fayetteville, Wilmington, and Newbern were put in nomination. Asheville was selected, and on motion of the Society, the choice was made unanimous.

The Society then proceeded to election of officers. The name of Dr. L. J. Picot for President was put in nomination, and Dr.

C. M. Poole was instructed to cast the vote of the Society for Dr. Picot.

The following Vice Presidents were nominated, and on motion, the Secretary cast the vote of the Society for them. 1st, I. W. Faison, Charlotte; 2nd, H. H. Dodson, Milton; 3rd, J. W. White, Wilkesboro; 4th. W. C. Brownson, Asheville.

Drs. G. W. Pressley, R. D. Jewett and H. A. Royster were put in nomination for Secretary. By request of Dr. Jewett his name was withdrawn. Drs. Sikes and Fletcher were appointed tellers, the vote was taken, and Dr. Pressley was declared elected by a plurality vote.

For Treasurer, Dr. G. T. Sikes and Dr. T. M. Jordan were put in nomination. Dr. Fletcher and Dr. Nicholson were appointed tellers, the vote was taken, and Dr. Sikes was elected.

Dr. Weaver, Secretary of the Board of Medical examiners reported the following successful applicants for license and on motion they were referred to the committee on Credentials: J. A. Williams, J. T. Stewart, J. T. Burros, N. G. Shaw, R. S. Rierson, J. B. Hunter, F. T. Long, R. E. Jenkins, W. R. McCain, G. F. Duncan, Walter Jackson Jones, Thomas Springfield, J. E. Moore, John Davidson, W. A. Rogers, G. A. Canton, J. H. Mock, R. D. Flippin, W. L. Query, J. D. Williams, J. I. Campbell, Herbert B. Thomas, J. E. Kerr, H. D. Stewart, G. A. Stevens, F. H. Gilreath, Geo. D. Everington, J. T. Moore, S. T. Flippin, I. H. Foust, O. P. Schaub, John B. Ray, W. P. Knight, Martin McNeill, Benjamin Palmer, J. P. Thompson, Charles Highsmith, J. W. McPherson, R. J. Price, Thad. S. Troy, E. C. Boyte, A. S. Pendleton, S. F. Pfohl, O. L. Hollar, C. H. Bynum, E. H. Spainhower, W. H. Graves, Alonzo D. Lord, J. R. Mask, S. B. Woody, C. B. Stephenson, F. L. Darbonnier, Charles VanBergen, E. Moore, Eugene D. Denson, C. C. Whitley, A. S. McMillan, W. H. Brooks, Plato H. Lee, James R. Parker, J. W. Young, S. A. Malloy.

Of this numbers, Dr. W. H. Brooks, of Greensboro, made the highest general average —97¾—with one exception, the highest mark ever received by a candidate.

Drs. A. S. Pendleton, of Roanoke Rapids, and Plato H. Lee, of Alexandria, each made 93.

Dr. Jewett moved that the licentiates reported favorably by

the Committee on Credentials be allowed to join the Society, pay the $5 initiation fee, which was to be immediately refunded to them. Carried.

The following resolution was offered:

Resolved, That the thanks of this Society are due and are hereby tendered to Drs. Jewett and Perry, Secretary and Treasurer, for the efficient manner in which they have performed the duties pertaining to their respective offices.

The Nominating Committee made the following report, which was adopted:

Orator—Dr. H. S. Lott.

Essayist—Dr. C. L. Minor.

Leader of Debate—Dr. J. P. Munroe.

Board of Censors—Drs. W. O. McDowell, H. H. Harris and J. H. Tucker.

Publication Committee—Drs. R. J. Brevard, J. C. Montgomery, R. D. Jewett and H. T. Bahnson.

Legislative Committee—Drs. R. H. Lewis, G. T. Sikes, Abner Alexander, James McKee, H. A. Royster.

Obituary Committee—Drs. G. W. Long, J. A. Reagan, K. P. Battle.

Delegates to American Public Health Association—Drs. W. J. Lumsden, Charles Duffy, J. A. Burroughs.

Delegates to North Carolina Pharmaceutical Association—Drs. J. W. McGee, Jr., J. R. Wheless, J. M. Flippin.

Delegates American Medical Association—Drs. W. T. Cheatham, Charles J. O'Hagan, Charles Duffy, Willis Alston, J. W. Long, H. T. Bahnson, E. C. Register, J. M. Baker.

Delegates to South Carolina Medical Association—Drs. I. W. Faison, G. H. Moran, W. T. Pate.

Delegates to Virginia Medical Society—Drs. J. C. Walton, W. A. Graham, A. G. Carr, S. L. Montgomery, W. H. H. Cobb.

The following communication from Dr. Anna M. Gove was received:

Robert D. Jewett, M. D., Secretary Medical Society of the State of North Carolina.

Permit me to express through you my appreciation of the honor conferred upon me by the Medical Society of the State of North Carolina, in appointing me delegate to the XII International Congress of Medicine. My only regret is that my credentials from this body did not reach me in time to be presented;

in fact, I received them, after many forwardings, some two months after my return to North Carolina.

Much forethought on the part of the Russian committee served to make traveling easy for those of us unacquainted with the language and customs of the country. On the border, physicians or medical students met the trains, acted as interpreters—for nearly all educated Russians speak at least two languages besides their own—helped about tickets, passports, customs inspection, and registration of baggage. At the Moscow station, a bureau of lodgings undertook to provide for those who had not already secured rooms, and delegates wearing the XII Congress badge directed us to the bureau where membership tickets were issued. The Manege, right in the shadow of the Kremlin, served as general headquarters. Here were temporarily located a branch post office, banking department, and a restaurant for the special convenience of members.

General assemblies occurred in the Imperial Theater. Special sections were held in various buildings, as a rule within easy walking distance of the bureau. The opening Assembly was a most impressive spectacle, but here, as in many of the large sections, it was almost impossible to understand the speakers, which did not surprise me until English was spoken, when I discovered that it was not the language but the delivery which was at fault. As a rule, the European delegates were men of more maturity than our American representatives. Dr. Senn, of Chicago, gave at the second general assembly a paper on The Classification and Surgical Treatment of Acute Peritonitis. Dr. Senn is a man of presence, is well known abroad, and commanded the attention of a fairly good audience, which was a source of satisfaction to the Americans present, as there had been so much criticism of Dr. Osler's sending a substitute, Dr. Thayer, of Baltimore, an undoubtedly brilliant man, but one much better known at home than abroad, and who, from his very lack of years, failed to command the attention we could have wished accorded to one of our delegates. At the section of Internal Medicine, Dr. Thayer gave a paper on The Increase of Eosinophilic Cells in Trichinosis, and also a communication on Malrria, which was illustrated by many charts and very interesting.

On the outskirts of Moscow, forming a little village by itself, a group or separate buildings, well planned and equipped, offer an extensive and almost ideal arrangement for a series of clinics-

The Foundling Asylum, with sixteen thousand children received every year, is probably better known to foreigners than any other institution in Moscow. Here babies are received, remain in care of a wet nurse for two weeks, and are then transferred to country homes. Many of these children are born in the Maternity near by, where they average six thousand deliveries per

year. The Maternity is clean enough, but over crowded, and septic patients are left entirely too near the delivery rooms; yet I believe that the statistics—which I unfortunately have not now at hand—show pretty good results.

The social part of our entertainment was also well provided for by the committee. Receptions and concerts were arranged for evenings, and we left feeling that our Russian friends had been most cordial and hospitable in every particular.

Again extending my thanks to the Society, and to you its Secretary, for the courtesy shown me, I beg to subscribe myself.

Very sincerely,

ANNA M. GOVE.

On motion the session was then adjourned.

SECOND DAY—EVENING SESSION.

The Society was called to order by the President at 8:30 o'clock.

The Annual Oration was delivered by Dr. Albert Anderson, of Wilson, on "Two Southern Pioneer Heroes in Surgery and Gynecology."

The Annual Essay on "The Under Side of Things in a Doctors Life" was delivered by Dr. Hubert A. Royster, of Raleigh.

On motion of Dr. Bahnson, the Essay and the Oration were referred to the Committee on Publication, with thanks of the Society.

The Finance Committee made the following report, which was received and adopted:

Your Committee on Finance, having examined the books and accounts of the Treasurer, beg leave to report the following:

To balance on hand June 8, 1897		$296.35
Amount collected since		574.96
Total		$871.31
By amount paid Dr. R. H. Lewis	2.10	
" " " Treasurer	100.00	
" " " Secretary	125.00	
" " " Carolina Publishing Co	17.00	
" " " Stenographer	49.00	
" " " W. G. Edgerton	4.77	
" " " For stamps	2.00	
" " " Charlotte Observer	2.50	
" " " For printing Transactions	345.00	
" " " Dr. Jewett	85.50	
" " " Dr. Duffy, being prize money left in Treasury	50.00	
		$782.92
Balance on hand May 3, 1898		$ 75.09

We recommend the usual assessment of $2.00 per capita, that the salary of the Secretary be $125.00 and that of the Treasurer be $100,00 for the ensuing year.

In view of the depleted condition of the treasury, the Society cannot undertake to pay the traveling expenses of the above named officers.

C. M. Poole,
Albert Anderson,
R. L. Gibbon,
Committee on Finance.

THIRD DAY—MORNING SESSION.

The Society was called to order by the President.

On motion the time of next meeting was left to the Committee on Arrangements.

Dr. J. Howell Way presented a paper, entitled "Expert Medical Witnesses: What is the Cause of the seeming Disrepute in which their Testimony is held in Certain Recent Cases in the Courts?—Observations from the Standpoint of a Country Doctor." Discussed by Dr. Murphy.

Dr StClair Davidson read a paper on "Exsection of the Gall Bladder for Impacted Gall Sone," which was referred to the Committee on Publication.

Dr. Poole offered the following resolution, which was adopted.

Resolved, That the Committee on Publication be instructed to have the transactions of this meeting bound in cloth, provided it can be done for a price not exceeding 50 cents a copy.

Dr. Way announced that the Board of Medical Examiners had that morning received the resignation of Dr. Burbank, and according to the rules, they proceeded to elect in his place Dr. W. H. H. Cobb, of Goldsboro.

Dr. J. P. Munroe offered the following amendment to the Constitution:

Resolved, That Article III., Section 2, be amended by adding to it the following: But any licentiate who shall apply for membership in this society at the current meeting during which he has been licensed by the Board of Examiners, and be recommended by the Committee on Credentials, shall be admitted without paying the initiation fee of five dollars.

According to the Constitution, it was left over till next meeting.

The Society then voted on the report of the Committee on President's Address, item by item.

1st. That the Board of Examiners meet earlier, in order that the successful candidates may have an opportunity of joining the Society. An amendment to this was adopted that the Society approves the action of the Board of Examiners in meeting at an earlier day, and requests the Board to continue this rule. 2nd, That those licentiates who join at these meetings shall not be required to pay the initiation fee of $5. Adopted. 3rd, That members be allowed to join by proxy, being recommended by members of the Society. Not adopted.

The papers of Drs. D. J. Hill, on "Veratrum Viride, with Especial Reference to Its Therapeutic Uses in Serous and Parenchymatous Inflammations," J. M. Parrott on "Remarks on the Country Surgeon and His Work," and J. G. Blount, "Chemistry of the Stomach," were read by title and referred to Committee on Publication.

Dr. Carr offered the following resolution:

Resolved, That the North Carolina Medical Journal be no longer considered the official organ of the North Carolina Medical Society.

A motion to lay the resolution on the table was unanimously adopted.

The following resolution was offered and adopted.

Resolved, That the transactions of the North Carolina Medical Society be no longer published piece-meal in the North Carolina Medical Journal in bi-monthly issues, but published as a whole within 60 days after the meeting of said Society, or as soon thereafter as possible, and that a copy be furnished each member without delay.

The Editor of the JOURNAL asked if it were the intention of the Society that the papers and minutes were not to be printed in the JOURNAL, whereupon such intention was denied.

On motion, the Society proceeded to the installation of Officers. Dr. O'Hagan and Dr. Murphy were appointed to escort the newly elected President to the Chair Dr. Francis Duffy, the retiring President, said: Gentlemen, in vacating this chair to my worthy successor, I desire to thank you again for the honor conferred upon me and also for your kindness and leniency towards my efforts to perform perfectly the functions of my office.

Dr. O'Hagan introduced Dr Picot, the President-elect, who said: I wish to thank you gentlemen, for this evidence of kindness and partiality towards me, and I promise you to do my very best to promote the future interests and welfare of this Society. I can only hope that I can make good to you the promise of Dr. O'Hagan.

The President appointed the following Chairmen of Sections:

Pathology and Microscopy—Dr. E. B. Glenn, Asheville.

Anatomy and Surgery—Dr. Goode Cheatham, Henderson.

Medical Jurisprudence and State Medicine—Dr. Thos. F. Costner, Lincolnton.

Obstetrics—Dr. W. W. McKenzie, Salisbury.

Gynecology—Dr. W. A. Graham, Charlotte.

Practice of Medicine—Dr. Benj. K. Hays, Oxford.

Materia Medica and Therapeutics—Dr. C. S. Mangum, Chapel Hill.

Chemistry and Physiology—Dr. Josh Taylor, Washington.

An invitation to the Society from the Presbyterian College to a reception from 4 to 6 o'clock was read, and accepted, with the thanks of the Society.

Also one from Elizabeth College, to visit it at the convenience of the Society.

The following names were favorably reported by the Committee on Credentials and recommended for membership:

Drs. G. A. Ramsaur, T. N. Ried, J. R. Alexander, S. J. Love, J. M. Blair, E. M. Brevard, W. M. Fowlkes, E. R. Russell, G. S. Tennent, H. N. Abernathy, Joy Harris, G. A. Brown, C. L. Minor, S. M. Crowell, J. W. P. Smithwick, S. F. Pfohl, J. A. Willipms, R. C. Ellis, J. D. Williams, L. A. Crewell, G. D. Everington, C. S. Mangum, F. M. Winchester, J. L. Campbell, H. D. Stewart, J. R. McClellan, O. P. Schaub, J. W. McPherson, J. B. Ray, W. P. Knight, J. R. Rierson, S. A. Stearns, S. T. Flippin, J. E. S. Davidson, F. H. Gilreath, W. H. Rogers, J. I. Campbell, G. A. Katon, W. H. Brooks, E. H. Spainhower, J. R. Parker, C. M. Strong, W. R. McCain, Chas. Highsmith, E. B. Glenn, S. E. Ricks, W. E. Hemphill, C. P. Jones, T. E. McBrayer, O. C. Champion, W. S. Davidson, R. J. Teague, D. P. Whitley, W. H. Wooten, John Davidson.

Drs. W. L. Robinson, of Danville, Va., Edmund McGuire,

Hugh L. Taylor and Levy, of Richmond, were granted the privileges of the floor, the first named being the duly accredited delegates from the Virginia Medical Society.

On motion, the thanks of the Society were extended the Charlotte Medical Society and the citizens of Charlotte for their generous hospitality.

The Society adjourned to meet in Asheville sine die.

R. D. Jewett, M. D., Secretary,

Winston, N. C.

Francis Duffy, M. D., President,
Newbern, N. C.

PRESIDENT'S ADDRESS.

By Francis Duffy, M.D., Newbern, N. C.

Gentlemen of the Medical Society of the State of North Carolina:

In accordance with the rules of this Society, it becomes my duty to present to you an address on assuming the functions of the offie to which you have done me the honor to call me.

Some of the presiding officers in our past history have discussed medical topics by inviting the attention of the society to some chosen subject, others have looked over the field which we occupy and have advised, according to their judgment, such action as was likely to promote the objects which we, co-laborers, are seeking to attain, while other addresses have been inspiring and elevating by sentiments expressed, not merely rhetorical and pleasing the ear, but utilitarian in the highest sense, like a poem, which by stirring and emotions builds resolve. and has its fruition in the best deeds of men.

I desire to submit to your consideration certain matters which, during my connection with the Society, have occurred to my mind from time to time. First, as to the necessity of increasing the membership and usefulness of our Society. It is obvious that all the legislation regulating the practice of medicine and maintaining a higher standard of medical education in the State has originated in the presistent organized efforts of the North Carolina Medical Society. The same may be said as to the enactment of laws establishing the Board of Health, or in any respect pertaining to public sanitation. As the importance of these matters can hardly be over-estimated, it is evident that anything tending to build up the Society and increase its power must be of corresponding importance. In this connection I call attention to the fact that since written examinations have been adopted by our Medical Examining Board, it has been impracticable for licentiates of the Board to join the Medical Society during the meeting at which they were licensed. Reference to Society

Annals will show that a much larger number have been licensed than have become members of the Society at the same session. These young men form the best element from which to recruit the ranks of the Society. When they miss the first opportunity, they do not as a rule have the same interest in public medical affairs that they would have as members of the Society. They do not often go long distances to join, but wait one of the migratory incursions which does not usually occur oftener than once in a decade. If our Medical Examinidg Boards would shold their meetings long enough before the Society met to finish their examinations and report thereon before the adjournment of the Society, these disadvantages would be obviated, and at the same time the law complied with, which r quires that the Board should meet at the same time and place as the Medical Society.

I believe it would be well to remit the usual initiation fee to those who join during the year in which they receive their licenses This, instead of being a loss to the Society, would likely be a gain, as the annual dues in 2½ years will amount to $5.00, while the average length of time which elapses before the joining of those, who join at all, is much longer than that period, while many never become members of the Society; besides many meritorious young men have spent all their money in obtaining medical education and license, and have not even $5.00, to spare at the time they have to equip themselves for practicing their profession. There are other reasons than those I have touched upon, why the way should be made easy for young men to join the Society. The first year of professional life is the formative stage of professional character. The moral sense and those delicate instincts, which point to rectitude as their polar star, are not strong alike in all, nor have the home influences and other sources of training which build upon the foundations of character been the same. Young men of various bias, without any knowledge of the Code of Medical Ethics, enter a profession which from the time of Hypocrates has had its Ethical Code, and which as it is to-day is the outgrowth of the wisdom and experience of generations of practitioners who stand upon the delicate ground where meet self interest and self abnegation. These first years of professional life are, with many, associated with necessities which

would naturally foster carelessness. Is it any wonder that there are so many deviations from the paths of moral and Ethical rectitude?

The influence of a Medical Association is very beneficial in forming and promulgating rules to harmonize and make pleasant the business relations of medical men; in stimulating the efforts of co-workers, by which they become co-educators and in inspiring higher ideals from which spring higher realizations.

I trust it is not amiss to make further suggestions as to the work of the Board of Medical Examiners, for although the Legislature has given them full power to fix the standard of qualification and make by-laws governing their own action, the elective power in choosing these Boards is vested in the North Carolina Medical Society, and the sentiments of the Society would naturally be reflected by the Board chosen.

It has been and is the custom to admit to examination any and all persons presenting themselves. The only requirement being the easy-to-be-obtained certificates of moral character, and the merit of having existed 21 years. It by any means the applicant can answer a certain percentage of questions propounded, he obtains a license founded on the declaration that he is found qualified to practice medicine in all its branches.

In those parts of the world where the standard of medical education is highest, men are admitted to examinations only after a sufficiently long training, not only didactically, but clinically and in the laboratory. The mere correct answering of a few questions on a branch of medicine, regardless of antecedent practical training or experience, cannot be sufficient evidence of qualification. To obviate this difficulty it has been proposed to have clinical examinations. This is hardly practicable. Sufficient material of different kinds are hard to obtain. The diagnosis of any given subject once made would soon become known to all, and even if the candidate failed in the clinical test, he yet might average the percent necessary to obtain license. An examination which ignores the candidate's past as to training would require to be long and tedious, especially if clinical and laboratory features are included. Better, far, trust something to schools which are equipped for giving all necessary training and require all candidates for examination to give evidence

sufficient clinical and laboratory experience. If the examining Board have not authority to regulate these matters, our law ought to be amended.

Another matter of importance may be harder to regulate, yet worthy of the attempt. Namely the interchange of courtesies between the States, at least those bordering on North Carolina. Where a sufficiently high standard is maintained by any State Board its licentiates might very well be admitted to other States. It means an unnecessary hardship, for instance, for a physician living on the border of North Carolina and Virginia to have to pass the Boards of both States.

It may be like the re-threshing of old straw to refer to the importance of public hygiene, and the necessity of procuring legislation for the promotion of that object, but as that sort of straw has yielded so comparatively little of the grain which it is capable of producing, I am impressed that we should continue to thresh. As far as we are concerned, I do not feel that it is necessary to remind this body of these things, much less to offer instructions, but with the people in general as well as their legal representatives it is different. They have not yet found out the best way to spend their money with the medical profession to get the best returns. With them, the time honored function of the doctor is to apply remedies to diseases, and according to the law of supply and demand, the physician usually equips himself for the performance of that function, and by solicitation and practice grows in that direction. It is not my purpose to derogate this part of the physician's work. The world would be much poorer without the legitimate use of opium, chloroform, cocain, quinine, iodine, mercury and other remedies. If the evil is upon us, that which removes or mitigates it will continue to be appreciated and sought, but where cure can save its thousands, prevention can save its tens of thousands, and it is a crying necessity to-day that this fact receive both a thoeretical and practical realization by the whole people.

Before we can hope to leaven the whole lump of the body politic let the physician scrutinize himself and the field that he occupies, to see how far he is the exponent of the true science, or to what extent he typifies or justifies a recent cartoon that represents nature and disease in fierce combat, while the doctor

comes up blind-folded, and with his cudgel strikes right and left, now striking the disease and now the patient.

The history of the application of therapeutic measures (drugs mainly) does much to justify this cartoon. It is not necessary to more than refer to the incantations and other absurdities of ignorance and superstition which were in keeping with the dark ages in which they practiced. Within the memory of the men of to-day, famishing fever patients have been deprived of water by their mis-guided attendants, who were governed by tradition and custom, rather than by the dictates of common sense, and the unerring cravings of nature. Even the foul air of the patient's room was carefully confined by closing the doors and windows, and perhaps his strength still more reduced by copious blood letting.

My mother related to me an experience in her early life. Her father living on his plantation was stricken with fever, and after some days, or weeks, of bleeding and famishing he died. A number of his negro slaves were also stricken and under the same management went the same way. One servant begged to be let alone, and not subjected to the treatment. His wishes were gratified and he alone recovered. I remember the old man well. He lived to advanced age.

Homeopathy and a number of other pathies, in spite of their absurdities, had fruitful soil in which to grow. They were less aggressive on the persons of the suffering sick, and if they gave no aid, were not so likely to hinder natural recoveries, and so the regular profession looked on, learning from experience, grew in knowledge, by its natural evolution, and became wiser than their critics. But the medical millennium has not yet come, nor are the days of mal-practice past. Even among operative procedures, the fads of gynecologists and the exploits of those seeking fame by startling measures in other fields require constantly to be challenged, to show cause why they should not be discontinued. If the novice takes up an optimistic modern work on materia medica, and studies the physiological effect of drugs and their therepeutic application, he might easily be impressed with the belief that drugs could control every pathological process, and remove every morbid condition. Coupled with these studies, he is very much surprised to find that works on practice of medicine

(perhaps especially those of the scientific Germans) will give exhaustive descriptions of disease, pathology, etiology, clinical history, diagnosis, and prognosis, but beyond general reference to hygiene, nothing specific as to the treatment. The fact of the limited power of drugs to work beneficial changes, begins to dawn upon him, and that even those that are of undoubted value are like edged tools, and require careful handling. Even our comparatively harmless quinine, which so effectually destroys the malarial plasmodium has been made to do its share of harm. On no less authority than the German professor, Leibermeister, 40 grains at a dose have been given to typhoid patients. Within recent years the cold tar antipyretics were hailed with delight. Fever killers had come at last! A Baltimore professor told his class that antipyrine was what he had been praying for. I think you will agree with me that more patients than fevers have been kllled by them; and these remedies are in rather common use among the laity.

Not many days ago I visited a child to whom the mother had administered a dose of acetanilid before the cold stage of an intermittent fever had disappeared. Alarming symptoms followed. Another case came under my notice, where a farmer had administered a dose of acetanilid under similar circumstances. The child died, apparently from its effects.

Not many years ago, the doctrine was promulgated that disease, a condition of lowered vitality, required to be combatted by copious administration of alcoholics. This fascinating theory had many adherents, and did much harm. In the field of dietetics, we went from starvation to stuffing. Even to-day an American text book advises that a typhoid fever patient may take as much as six quarts of milk a day, a quantity that has been shown by physiological experiment to be one-third more than the full digestive capacity of a healthy man, eating nothing else and digesting all the day. We have no infallible guides. Our reason must challenge every theory, and our experience prove all things, and hold fast to that which is good.

But why this arraignment of a profession, which in the matter of education, conscientiousness and faithfulness compares favorably with any on earth. It is to lament that our most uncertain and dangerous functions are most in demand; that millions of

dollars are paid by the people for the practice of medicine as it is being done, and as to some little extent has been indicated in the foregoing pages, while our best functions or capabilities are dwarfed by disuse and neglect. The public health officer would have to be a missionery at his own expense, while a premium is put on disease. This is not a mere perverse and unnatural choice of the people. They are as wise as we are, and will seek their own good as they conceive it to be. We are of them, and differ only as regards these matters in knowledge.

If they, the masses of the people, knew as much of the sources of the disease as the educated, better element of physicians, who do you suppose would be in the van of the procession to stamp it out? The man who reaps a harvest when disease runs riot or the man who pays the bills? That the people should become possessed of this knowledge is the prime requisite, for should we obtain such legislation as in our judgment was all that was necessary, and such appropriations as would leave our Board of Health unhampered in the discharge of their functions, the laws would be largely inoperative if lacking in popular sympathy and support; besides many of these things would depend on habits of individuals which legislation could not control. It is to be, then, chiefly a matter of education; and how to accomplish this, is the problem.

If the individual physician in his professional and social contact with his clients sows the seed, if our Boards of Health, local and State, continue and even improve upon their good work, and if our schools from the lowest to the highest teach the rudiments of the science of health, and unfold to the mind of the pupil the necessity of expert work in the prevention of disease, knowledge must grow. And if our State Society, in its organized capactity, with the courage of its convictions, does not hesitate to urge necessary legislation, they will have discharged their duty, and may soon accomplish much.

Typhoid fever, which is perhaps entirely preventable, causes the State the loss of many a victim and much treasure. Current knowledge or opinion ascribes its propagation almost entirely to intestinal discharges of the infected. Prevention would seem to be in easy reach, yet it goes on. Personal observation leads me to believe that disinfection of the dejections is net ac-

complished in one half the cases. Many cases of continued fever are not considered typhoid fever, which are most likely of that nature. I will not discuss the subject, but pass it by with the recommendation that the dejections of all fever patients be disinfected. The public should be instructed to do so, even where physicians are not employed, as they often are not, and it may be a fit subject for compulsory legislation. Our Board of Health has done a good service in the matter of prevention of malarial fevers by use of deep well and cistern water. But a properly managed cistern is an exception. Infectious germs are carried from the atmosphere or house-tops to the cistern. Filters, often imperfect, remain unchanged, until oversaturated. They become thus the source of infection. Tuberculosis continues to be propagated by the expectoration of the infected without hindrance, except perhaps in one municipality in the State. Milk is sold from any kind of cow which will afford it. Diseased meats are sold in the markets. Ice is imported from impure sources and people believe that freezing purifies it, which is true only to a limited extent, and may be manufactured from impure water. Any kind of canned food is sold that any one will buy. There is no check on adulteration or fraud as to what the people eat or drink or take as medicines, patent or proprietary, save their own unskilled judgment, warped or blinded by alluring advertisements and unblushing false assertions.

The physician often finds that a patient unable to pay him has raked up money enough to pay an exorbitant price for worthless medicines or appliances. Druggists practise medicine. Spectacle venders, ignorant or unscrupulous, still practice this branch of the medical art, though a medical college graduate has first to pass our State Board. Dangerous drug habits or other evil consequences arise from headache cures and the like. Beverages (coca cola for instance) sold from the soda fountains should be subject to analysis and the people advised, or the sale interdicted if necessary. I refrain from further specific references.

The doctor of the future will probably differ more widely from the one of to-day, than the doctor of to-day differs from the one of the past. We know something of him of the past and present and that the tares have been mixed with the wheat in

varying proportions. With prophetic eye we may contemplate him of the future, but we know not how far distant, or how near at hand. The poet or philosopher may by inspiration point the way; the scientist by experimental research may demonstrate; still events occur only in the fulness of time, or that period in the evolution of the human race, under the sovereignty of God, when it is possible to achieve that which before was not attainable, but the sword of the doctor (his weapons of warfare on disease or the diseased) will be changed to the pruning hook, which cuts away the poisonous branches upon which grows the deadly fruit.

In the propagation of the race, in the construction of human habitations, in clothing and in food, in labor and in recreation there is a rational wisdom, and in connection with these there should be skilled advisers. If physic should be thrown to the dogs, will the doctor's occupation be gone? Not when he has proper surveillance over everything that affects the health of people. In his present status of equipment he could do much more than he does or is permitted to do, but when the new order of things creates the demand, medical colleges will not condone ignorance of chemistry and physics even as now imperfectly taught, nor make side shows of the microscope and laboratory. These stones which are well nigh rejected by the builders of medical education will become the heads of the corner. These things will be *sine qua non.*

North Carolina has been called the Rip Van Winkle of States; still she has been known to arouse from her lethargy. In the matter of legislation regulating the practice of medicine, she was (through the influence of our Society) in the van of the procession. And in this historic city, (Mecklenburg County) May 20th, 1775, she sounded the bugle call as a pioneer of liberty. It is fitting that we should here resolve to push still further the lines of human progress.

ANNUAL ORATION.

TWO SOUTHERN PIONEER HEROES IN SURGERY AND GYNECOLOGY.*

By Albert Anderson, M.D., Wilson, N. C.

Mr. President and Gentlemen of the N. C. Medical Society:

DECADE after decade it has been asserted that North Carolina is the Rip Van Winkle State. I deny the charge. Of all places in the world this is the most appropriate to make the denial. We are upon historic ground. It is well to remember to-night that we tread soil of the nativity of American liberty. Upon the soil of old Mecklenburg was born the Declaration of Independence more than fourteen months before that immortal document was produced at Philadelphia. The heroes of this county in convention assembled declared in thundering tones those great principles of personal liberty and American independence which have become the foundation and tower of human rights throughout Christendom. In thundering tones, I said, and remember that the roar of thunder is born in the flask of lightening. May 20, 1775, there flashed forth from the immortal soul of Dr. Ephraim Brevard this declaration: "Let us declare our independence and defend it with our mutual honor." This came from a crowd "neither sleepy, hungry nor fatigued."

The seven revolutionary engagements fought within forty miles of this beautiful city vindicated the heroism of this daring deed, and eternally established the right of this place to be called the "Hornets' Nest" of the Revolution. It makes a great difference to the force of any sentence whether there be a man behind it or not. Through every word, every clause, every sentence of that Mecklenburg Declaration, we meet the eye of the most determined, heroic man. Their force and terror inundate every word; the commas and dashes are alive; the writing

is athletic and nimble. It went far—is going to-day—will live forever and travel to the world's remotest bounds. Great patriotic doctor! We honor thee to-night as the chieftest lover of thy country. Thy single eye saw political truth; thy intelligence formulated it, and thy courageous hand penned words embodying our inalienable rights, which are but the transcript from the will of God. Thy patriotism bore the fruits of union, domestic tranquility, justice, liberty and welfare.

Here, too, was the home for a long time of North Carolina's greatest, wisest, purest statesman. Like Ephraim Brevard he died with a single physical eye, typifying the great ruling purpose of his life's work, to serve the best interest of his beloved people. In peace, war or imprisonment, he was first and most loved of all. North Carolina never had any honor too great, any love too precious to give their first citizen and greatest statesman—Zebulon Baird Vance.

There are common traits that mark heroes wherever you find them, under all claims, in every profession. Take the medical or surgical hero. He maintains his equilibrium. He always rides; is not reduced to dismount and walk, because his passions are running off with him in some distant direction. "Calm and serene" amidst the lightning's flash or the thunder's roar, the tumult and uproar of the howling mob, or the terror and excitement of home. After the smoke of battle has cleared away, there is no trouble to the dullest vision in seeing victory flashing from his eye. "Will he never come?" she cries, an' a' heard the soond o' the horses feet on the road a mile awa' in the frosty air. The doctor comes skelpin into the close, the foam fleeing frae his horse's mouth. Whar is he? wes a' that passed his lips an' in five meenuts he hed him on the feeding board and wes at his work-sic work, neeburs,—but he did it weel. An' ae thing a' thocht ræl thouchfu' o' him, he first sent the laddie's moither toe get a bed ready. It was mighty tae see him come intae the yaird that day, neeburs; the vera look o' him was victory." This William McClure was an ideal type of a hero. We have some in North Carolina. Like McClure they "do their best for the need of every man, woman and child in their wild straggling districts, year in, year out; in the snow, in the heat; in the dark,

in the light; without rest or holiday for forty years," and the very sight of them is victory.

Is the physician always brave enough to stand by his patient when the laity see in the form of convulsions the death angel coming with rapid, but sure speed—when the cries come quick and loud for help! help!! help!!! At such times a hero "with a military attitude of soul affirms his ability to cope single handed with the infinite army of enemies" and thereby emulates the example of the great physician when he stepped out upon the turbulent waters and said "peace be still."

There are other foes than external that a doctor must meet and conquer,—those of his own nature. To cope with these he must have a will that says, "Thus far and no tarther." When did you yield to the clamoring demands of a patient for more opium or whiskey? Then it was you who played the part of a coward. Such cowardice in pandering to damning appetites is retroactive and damns the doctor with short patronage, supreme contempt and the habit itself.

> "Vice is a monster of so frightful mien,
> As to be hated, needs but to be seen,
> But seen too oft, familiar with his face,
> We first endure, then pity, then embrace."

"Cleave to the right as a ladder that leads up to manhood and God."

Let us not forget results which science teaches. "In the shipwreck only the pilot chooses with science the means of escape, he whocomes to land must sail with him." There is a secret impulse in every character. Obey it, tho' the heavens fall and the earth swings from beneath your feet. We ought to know from experience, observation and science the things to touch not, taste not and handle not. Yet in the face of this triple vantage ground, is it a fact that to our numbers we have the largest per cent. of any other class that takes whiskey and morphine as a panacea for our restoration to rest and health? Insomnia comes to our couch; sleep we must have in order to work. If trional is not a sufficient hypnotic, morphine is, and too often the arms of Morpheus enclose us in his sweet but fatal embraces. It is appropriate now to sound this note of duty. Put on the armor

of manhood. Teach by example as well by precept. No man can fill the place of a hero in our ranks who does not check the ordinary evil propensities of his own nature.

Take the father of gynecology,—J. Marion Sims. Test the material out of which he was made. He was patient and persistent. He carried the plans of his powerful mind into minute details, manipulating with that skillful hand to a hair's point, finishing every step as carefully as if he were going to receive a fortune at once. Without encouragement, at one time without friends, without money and without health, the hero worked on till victory was his. The heroic mould of this man will bear the scrutiny of the solar microscope.

"Slave to no secret, who took to private road,
But looked through Nature up to Nature's God."

His nature opened a foreground in the medical world, and like the breath of morning landscapes, invited his comrades on. The conditions that met this pioneer have always existed. Surgeons had looked on and declared by their inactivity and non-intereference that it was impossible to remedy the miserable existence. After efforts lasting four years, doing the operation thirty times on one patient, "with palpitating heart and anxious mind, he found on removing the stitches a perfect union of the little fistula." Our hero broke the unbiblical cord that holds so many of us to nature and rose to the platform of pure genius and has ever since received the gratitude of thousands of women restored to health through his discovery and work. He did not peer into the future for some nicke in the temple of fame where his name would be placed, but did his work perfectly, patiently, without reward or hope of reward. Thus it is ever with a true man. "That which a man feels intensely, he struggles to speak out of himself, to see represented before him in visual shape"—with a kind of life and historical reality in it. With Sims it was a most earnest thing to be alive in the world. The occasion of woman being thrown from her pony furnished him with the opportunity of inventing his speculum. A vista of wonderful possibilities was opened to his inquiring mind. He saw results giving to woman relief and happiness that thrilled him. "A hero is a hero at all points, in the soul and thought of him first of all." Like truth, tho crushed to earth, he rose after every failure. He did not complain at nature and hold her re-

sponsible for his failures. His work, not nature, was considered at fault. Eliminating first one factor and another that prevented his success till the darkest hour came, and like the last hour before dawn—so the dawn soon came to his professional work, and he cried "Eureka." Success followed success till there was no man or surgeon above him in honor or skill. In his trials, failures, successes, honors and fame, we always find him a great soul, loyally submissive, reverent to Him who is above. Had he followed the advice of his brother in law, "to resign the whole subject and give it up" he would not have been the father of gynecology, the founder of the Woman's Hospital in New York, and the recipient of honors and honorariums of kings, queens; emperors, empresses; princes, princesses. When John Hancock signed his name to the Declaration of American Independence, it was said that he wrote his signature in letters so large and so loud that the cry for liberty, which they represented, was heard around the world. With equal truth it has been said that when Marion Sims fell so suddenly into the arms of death, the shock was felt wherever woman suffers or surgery is practised. (Had this been said of Ephraim Brevard instead of John Hancock, it would have been the whole truth.)

When thinking of the daring deeds of heroism in surgery, we naturally and with pleasure turn our thoughts to those accomplished by southern heroes, and for good reasons, because they are unexcelled in skill and ability by men at any other point of the compass. With thrilling delight we mention another hero in the surgical galaxy of the deathless the Father of Ovariotomy, Ephraim McDowell, of Danville, Ky. This fatherhood is 99 years of age next December 13th. The result of this parentage, I should say from the best obtainable statistics, is the addition of over fifty thousand years to the life of woman. Such a tremedous boon to woman comes from inspiration, skill and heroism. He was born not to die to surgery. He is also immortal in the moral and spiritual spheres. Long and faithfully had he studied the possible success of ovariotomy when his first subject came under his professional eye. After a most thorough and critical examination Dr. McDowell informed his patient, a woman of unusual courage and strength of mind, that the only chance for relief was the removal of the diseased mass. He explained to

her with great clearness and fidelity the nature and hazard of the operation. He told her he had never performed it, but that he was ready, if she was willing, to undertake it and to risk his reputation on the issue, saying it was an experiment, but one well worthy of trial. A hero and a heroine had met. Unlike Felix to Paul, she listened and was fully persuaded. His life hung on the recovery of this heroic woman. The mob led by the profession (shame be it said) would have put an end to this heroic life had this woman died. But with confidence in God and in his own ability, he dared to do and if necessary to die to save this woman's life. No anæsthetic to wrap into insensibility the quivering nerves of his subject—"Only a covering thrown over her pallid face to shut from view the flashing of the instruments used. The operation was done, the woman lived. The result was, is, and ever will be, the greatest boon hitherto to woman and an eternal inheritance to surgery.

Just prior to this operation he communed with his God. That prayer of the immortal McDowell was the true index of his nature. His purpose was strong as Gibraltar. His conception of the operation was clear as the noon-day. To relieve suffering by surgical means was an uncontrollable purpose. Do you suppose for a moment that he considered the effect of the operation upon his success—whether it would enlarge his inflnence among the laity or make his name immortal to the profession? Utility only thrilled him, the relief of a woman moved him to action. "Let a man do his work; the fruit of it is the care of another." Are not all true doctors that live or that have lived, "soldiers of the same army enlisted under heaven's captain and to do battle against the same enemies?" Ephraim McDowell, triple immortal spirit, we hail thee as hero, christian and chiefest surgeon of thy day the world over.

The work and words of these pioneer heroes are the richest fruitage we possess to day. Out of the depths of their souls sprang deeds immortal. To every loyal son of Æsculapius they are brothers.

"On one occasion an orator was contrasting the fame of statesmen, orators and military men, and said he, chief among all these is he who bears the mark of our guild, Ephraim McDowell. For the labors of the statesmen will give away to the pitiless

logic of events, the voice of the orator grew fainter in the coming ages and the deeds of the soldiers eventually find place only in the library of the studeut of military campaigns; while the achievements of the village surgeon, like the widening waves of the sea, shall reach the remotest shores of time." Verily the achievements of these heroes prove the truth of this beautiful contrast. These two were rural surgeons. We should take encouragement from the history of these. We, as they did, live away from medical centers in small towns and rural districts. Such places have grown men who have given to the world the most practicable discoveries and advances in surgery, medicine and hygiene. These are too numerous to mention, but they have erected in all ages their monuments, imperishable and eternal. "It is said that the ploughman, tilling the fields of the western slope of our continent, who keeps his eyes intently on the furrow, may occasionally find nuggets of gold; so the faithful toiler amidst human ills is liable to unearth jewels of fact, which garnered and recorded, will add to the wealth of surgical knowledge." Sims and McDowell kept their eyes intently upon their work. They recorded only a fraction of their discoveries; yet they kept a sufficient record to render themselves deathless and their facts invaluable. "The spirits of great men, like immortal ships, sail the ocean of time, bearing treasures of the civilization which gave them birth. They outride the fury of all the storms and will sail on till,

> "The stars grow old,
> The sun grows cold,
> And the leaves of the Judgment Book unfold."

"Their day is done; their sun is set. But from the scene of its setting there streams up a trailing brightness—the shining example of those who, while profound in silence, wise in counsel and excellent in skill, were also sincere in piety, true in friendship and genial in intercourse. Their presence entered the sick chamber like a sunbeam from heaven streaming into a darkened room. Its mild radiance lingers in hundreds of homes and thousands of hearts. They burn as pure stars fixed in the surgical firmament, at which the great and high of all ages kindle themselves."

ANNUAL ESSAY.

THE UNDER SIDE OF THINGS IN A DOCTOR'S LIFE.

By Hubert A. Royster, A.B., M.D., Raleigh, N. C.

INASMUCH as the essayist of the North Carolina Medical Society is privileged to address a general audience, it seems fitting to select a subject which closely concerns both the profession and the laity. One of my friends is fond of saying that nothing is interesting unless it be of human interest. The brief remarks which I shall make this evening will have much to do with folks and human nature. The intention will be to speak simply some thoughts which constantly push themselves forward in the mind of one busied with daily trials in the practice of medicine, especially as these thoughts bear on the personal relations of doctor and patient. My years are few and my experience is small, and it is, therefore, not to be expected that this paper will contain long philosophical deductions founded on a broad, matured view of life and its struggles. Enough has come, however, to convince me that too little is known by the physician and his patient of their own bearings toward each other. We seldom stop to think how each appears in the smaller affairs of our existence.

Why do folks employ physicians? Most people send for a doctor because they are sick or think they are sick. That seems reasonable enough. There are some who must have a doctor because it is "the thing" to do, even when they believe a physician's services are not needed. Others for various reasons or excuses refrain from sending at the proper time, when they know they should do so. A curious phase of this question is presented by the man who refuses or avoids medical counsel because he is afraid the doctor will put him to bed, cut down his diet or tell him to stop his work and rest. Now the man himself realizes at once that he ought to do these things: if not why should he suppose that the doctor would so advise him? The physician

has no desire to control a man's habits, to regulate narrowly his life and to place restrictions upon him. He would gladly cure his patient without these. It it is the doctor's opinion that the sick man should lie in bed or be put on a liquid diet, this seems to be the only course to pursue. It is the only one pursued by those who have made up their minds from first to last to do right regardless of their own feelings. How difficult it is for us all to sacrifice our personal desires for what our conscience tells us is the absolute right. A little boy once said this was a hard, cruel world, because every thing that he wanted to do was wrong and every thing good to eat was unhealthy. Are we not all children of a larger growth? But these people of whom we have been speaking are those who cry with much vehemence: "Oh! yes, always do what your doctor tells you; what's the use of having a doctor and paying him, if you don't follow his directions?" The only use in their cases seems to be to do just what they please – to carry out just as much of a physicians orders as will not conflict with their own likes or dislikes. By large classes of people, doctors are looked upon as chronic objectors, who go about seeking to find something which they can order some body to stop. Let me say emphatically that the doctor is not an autrocrat, a tyrant, an ogre– not even an exhorter or a pleader–, but a medical adviser in the passive voice. There should be no getting down on the knees and begging the patient to do his bidding. The man is a free-will agent; he consults the doctor; a certain line of treatment is advised; the man is at liberty to carry it out or not as he chooses. The resposibility of the medical man ends with the advice given. Many imagine it is to please the physician that they obey his orders, that they confer a great favor on him every time they take a dose of medicine. It is hard to make them see that the treatment is intended to do good to them, not to the doctor. Like school children, who are constantly endeavoring to shirk any duty, they fail to see that they are cheating themselves, not the teacher. Another still stranger feature is seen in those who send for a doctor in whom they have confidence, buy the medicine he prescribes, and that's the last of it. The ways of such people are like the ways of Providence—past finding out".

It is the physician's duty to answer all calls as promptly as

possible. Complaints are being continually hurled at our heads for not getting to the patient as soon as the patient himself or the friends think we ought. There are several things to say about this. Emergency calls usually, I may say always, receive immediate attention. In the ordinary rounds of practice it is impossible to see every one first; the doctor cannot be in several places at the same time. He must use his own judgment as to the order in which he visits the sick. Frequently several persons will send all but simultaneously, each asking the doctor to stop by his house the first thing as he starts out. Time after time messages will be sent telling the doctor to come "at once" when on questioning at the time or on arriving at the house later it is found that no immediate attention was needed or expected by the patient. Very often the sick one will be in the kitchen or sitting up chatting with friends or, possibly, out for a little stroll. I have had occasion to observe in my own practice each of these circumstances. After such people cry "wolf" once or twice, the doctor learns them and he acts accordingly. Can you blame him? With some in my own practice, a hurry call means to hurry and I always do so. I know they need a doctor's services. Others make day and night hideous with false alarms, so that it is hard to distinguish the true ring. What most of folks, sick or well, need to learn is that there are one or two more people in the world besides themselves, for love of self, more than the love of money, is the root of all evil.

People universally seem to be in the dark concerning the real relations of physicians to one another. "You doctors are so awfully formal in your ways" and" your etiquette is very peculiar" are expressons very frequently heard. Etiquette among physicians is founded upon ethics, or the art of doing right, and, defined as such, the way is perfectly plain. There will rarely be any friction between two doctors who are both gentlemen. A gentleman wants to do right. He may not always do it; but he always wants to do right. Among the members of the medical profession every where there are some men who are not gentlemen, even though, in many cases, their outward conduct may be apparently straightforward. They are not gentlemen at heart. And their professional brethren know it most of all. Personally, I would rather one of my respected fellow-workers should consider me capable than that whole cities full of people should rise

up and called me blessed. It is a fact, I think, that the layman is scarcely capable of judging a physician upon his merits. The majority of people employ a certain doctor because of his general reputation gained through outward impressions on themselves or on their friends and associates. They continue to employ him, granting that he has average ability, if he is personally agreeable to them, not, as a rule, on account of any particular skill he may possess. There is a very general impression among the laity that for most ailments any physician will do; that because a man is a doctor he must know and do the same that all other doctors know and do. Studying medicine of itself does not endow a man with a better or bigger brain nor does it supply him with reasoning power not already his own. It only gives him some more facts, tools of the mind and skill to use them, all in his own measure. Mental grasp, judgment, the ability to draw correct conclusions, these are all individual attributes, obtained by inheritance and developed by general education. No one could really expect a physician to reason more logically on matters in medicine than about those of every day experience. This inability of the layman to correctly criticise the doctor is the cause of the success of many in the profession who are unworthy to be in it and who become notorious by playing to the public.

The doctor has most abundant opportunities for studying human nature, that weak thing in us all, with which we excuse a multitude of sins. Did you ever think how mean human nature really is? We express it in a measure when we attempt to forgive every thing low and vile in ourselves by saying "well, we can't help it; it's human nature." I believe it was Dr. Deems who said that there was "lots of human nature in folks as well as in hogs." The human nature in folks is of vital importance to the physician. He comes into closer relations with the people in a community than do either ministers or lawyers. A man whom the church and the law regard at immaculate may be known to the physician as a profligate in his inner life and a scoundrel at heart. The doctor carries with him the secrets of life "even to the third and fourth generations." A trained eye and careful physicial examination sometimes tell the medical man all he wishes to know. This is fortunate for there is nothing

that the average person delights in more than to keep something from his doctor—a trait none but physicians (and observant ones) realize in its full import. It would be astonishing to the people in this audience if they could appreciate how often a man will sit in a doctor's office, where he has come to obtain relief, and lead the doctor off the track by telling deliberate falsehoods, and the patient would be equally astonished to learn in many cases that the doctor knows he is lying. Such things as this are of daily occurrence with busy and watchful physicians. Most men are naturally liars; some could not speak the truth, if they tried; very many do not even try. It has been said that if you run out in the street any where and grab the first man you meet, nine times out of ten you have a liar. But I was saying that doctors get very close to the people. They go into the home, into the family and learn every member of it, both in sickness and in health; for they study all the others while in attendance on the sick one. The remark is so often made that the doctor sees the sick man at his worst, on his back, suffering; and that therefore, he should excuse the man for all sorts of weaknesses and meanness, on the ground that the man is not himself. I claim that the patient unless he be delirous or comatose, is very much more himself, with his shell off, with his society manners laid aside and his true disposition revealed. His moral nature can then be observed in its primitive state. We can find out whether he is considerate of others, whether he is courageous in the presence of pain, whether he warts to do right. True illness of any kind is apt to make one disagreeable, but it does not add anything new—only brings out the old. The moral nature in folks is indeed an interesting and profitable study for physicians. By this I do not mean the attribute in men which makes them religious, but the innate principle, the motive for doing things, good or bad. The study of nervous degeneracy and its hereditary influence is productive of valuable results. The lack of moral sense is often mistaken for feeble intellectual development. There are occasions when a doctor finds difficulty in having his directions carried out even after he has gone to great lenghts in explaining them to some member of a family. The trouble is supposed to result from a want of understanding and at times, it may; but

often it is due to the fact that the person to whom the orders are given is absolutely devoid of a sense of moral obligation and is arrayed on the opposite side always. Such a person never determined to do right about anything. Any one can comprehend a few directions simply stated, but it takes a person of strong moral nature to want to follow them implicitly.

It is wonderful how people neglect to take a doctor's advice, to what ends they will go to deceive him and then how ready they are to blame the doctor if anythtig goes wrong. I will acknowledge that most people do not cast the blame on their doctor unjustly. But many do and generally for the most trifling reasons and without cause. Just as a physician commonly makes his reputatiou by the smallest things, so in the same way he often mars or loses it. The conscientious medical man throughout all ages and countries has silently steeled himself against this and has plodded along.

"Knowing if he won the battle they would praise his Maker's name;
Knowing if he lost the battle then the doctor was to blame."

This verse would serve as the text for a more elaborate effort than I feel able to undertake but it suffices to show one other phase in human nature. The gratitude of patients is worth much to physicians, more sometimes than any price which could be paid. How many times, when a man is flat of his back, would he offer his whole fortune to get well and when on his feet give nothing to the doctor in return save, perhaps, abuse for keeping him down so long; or promise fifty dollars before an operation and not even render thanks afterwards:

"When the devil was sick, the devil a saint would be:
When the devil got well, the Devil a saint was he."

Alas! how often it is that "gratitude is a lively expectation of more favors to come." In the experience of nearly all doctors among ungrateful patients are those who receive the largest amount of charity work. The man who gets the attention and pays his money for it, feels that he has received full value and is accordingly grateful. It has been said that if you wish to make an enemy of a man, do him a personal favor or lend him money.

Turning away from this baser side it is refreshing to know that there are higher and better things in a doctor's life. To

feel that we have been instrumental in saving the life of even one human being, be he grateful or ungrateful, scoundrel or gentleman, is a noble and satisfactory reflection. Nothing can take from us the consolation arising from a knowledge of duty well performed, suffering relieved, death averted. And yet the moral attitude of his patient must always have its influence on the physician, who is also human. A doctor would prefer a whipping to entering the doors of some homes; there are others in which the hard work he does is never irksome. The difference lies wholly in the moral sense of the people themselves. It is natural to separate the chaff from the wheat; to cast some people entirely out of our lives, while we grapple others to us with hooks of steel. A great part of a doctor's success lies in his ability to understand folks, their goodness and their meanness—to weigh their moral natures in the balance of cold logic. One of the most important points in any diagnosis is to find out whether the patient is lying or not. If he is, discard the history and depend on your physical examination; if he is not, shake hands with him, but consider carefully what he says.

As this article is being rounded to a close I am reminded that it savors extremely of the pessimistic. And yet the picture is not so black but that the light may be seen shining from behind the dark background. We cannot appreciate the good without knowing the bad. Nor can we do right unless we know what wrong is. I have brought before you here glimpses of the inner life of physicians (for we all have about the same sort of experiences) and the personality of their patients. In doing this I have necessarily spoken of some evil, but with the hope that good may come. Doctors must not shut their eyes to the seamy side of nature but must study both the good and the bad in the characters of their patients. Nor will it profit to look upon every patient as a "case" forgetting the finer, deeper elements within each individual. There is too great a tendency toward this in these later days and it may not be amiss to say seriously in the language of another, that the human stomach is not a test tube and the body is not a laboratory.

323 W. Morgan Street.

THE TOBACCO HABIT AS A CAUSE OF DISEASE.

By W. C. Brownson, M.D., Asheville, N. C.

I WISH to preface my remarks by stating that I am in no degree afflicted with tobacco phobia.

I do not believe with Meta Landers, whose hysterical denunciations of tobacco may be familiar to you, that the tobacco user is a vile creature, or that he must inevitably suffer in his mental and physical being from his indulgence of the habit. Many persons derive much pleasure from the moderate use of tobacco and no possible harm, but many are less fortunate and are injured by it. Let us consider for a few moments some of the most common manifestations of its evil effects.

The symptoms presented in acute poisoning by tobacco are known to every one. The pale, sweat-bedewed face, the deathly faintness, the complete muscular relaxation, the feeble, flutteriag pulse shown by the beginner after his first cigar or initial "chew," prove that tobacco is a most virulent poison; it is also a local irritant.

Nicotine, the active principle of tobacco, is, it is probable, responsible almost entirely for the deleterious influence of the plant, but it eontains, in addition, various salts and an empyreumatic oil, the latter by chemical processes yielding numerous alkaloids scarcely less poisonous than nicotine itself.

Tobacco, it seems from experimentation, has no perceptible effect on the brain; its depressing action is exerted on the spinal cord and the sympathetic nervous system. Upon the heart it is said to have no direct, effect, though by its depressing influence on the pneumogastric and the vasomotor system, the heart is powerfully influenced.

The effects of the tobacco habit may be divided into its constitutional or general, and its local or irritant results. As to the general systemic disturbances, the various modes of using

tobacco, smoking, chewing, snuffing and dipping, have much the same action; though there are without doubt individual idiosyncrasies, on account of which in the one case, smoking, in the other, chewing, may be better borne by the system, but the larger the amount of tobacco consumed, the greater the amount of nicotine absorbed into the system, the greater the constitutional disturbances.

As with other narcotic poisons, tolerance varies widely in different individuals. No special number of cigars or pipes per day can be prescribed as being within the danger line. What is moderation for one person would be excess for another. Those of lymphatic temperament, large feeders with a good digestion, can, as a rule, use an amount of tobacco without apparent injury that would be ruinous to one of spare build, nervous temperament and poor stomach.

Age is a most important factor in the results of the tobacco habit. In the young, growing boy, tobacco causes its most serious effects, and chorea, epilepsy and insanity have resulted from its excessive use.

The various forms of dyspepsia, faulty digestion, both gastric and intestinal, are the most frequent evidences of the baneful influence of tobacco. In part, they result from altered or deficient salivary secretion; in part, from the depressing effects of nicotine on the nervous system. If tobacco is given up, a gain in weight almost invariably follows. The functional diseases of the heart, characterized by its rapid, irregular or fluttering action, are very frequently caused by the abuse of tobacco as all observers agree. These functional disorders may lead to organic disease, to dilatation, hypertrophy and, perhaps, valvular changes. General arterio-sclerosis and angina pectoris are by some authorities said to be due to immoderate indulgence in tobacco. The manner in which these changes are brought about is not well understood, but, as is said by Page in his Physical Diagnosis, "It is so all the same." Tobacco, it would seem, has no direct effects upon the heart, as after painting it with a concentrated solution of nicotine, the heart beats on apparently undisturbed. Probably "a deficient action of the Pneumogastric" is brought about by the poisonous principle of tobacco "whereby the heart is not properly controlled," or " to sudden

vasomotor relaxations which by dilating the blood paths reduce the normal arterial resistance."

It is my belief that tobacco is one of the most fruitful causes of neurasthenia, and it was a surprise to find in looking over Beard's Classic "Treatise on Nervous Exhaustion" recently, that he nowhere mentions tobacco as a cause of the disorder. Certainly, very many of the symptoms that he so graphically describes,—"the atonic voice," "the mental irritability," the "morbid fear" in its various divisions, such as "anthrophobia," (fear of man); "gynephobia," (fear of woman); "pathophobia," (fear of disease) etc., the frequent blushing, profuse sweating without cause, local spasms of muscle (tremor), nervous chills and flushes of heat, temporary paralysis etc.,—all these are met within the subjects of the tobacco habit. It is hard to fix the dividing line. It is a question often whether there be any dividing line between neurasthenia, hysteria, lithæmia, and we might add melancholia. Certain it is that all the various symptoms and manifestations described under these headings in our text books, are met within those who use tobacco to excess, and that they are caused by tobacco is evidenced by the fact that they either disappear entirely or are very much lessened in degree when tobacco is discontinued. All of the symptoms spoken of under neurasthenia may be met with in chronic alcoholics and also in those who are given to sexual excess. Therefore, it must frequently be impossible to decide which vice is the leading agent in the cause of these disturbances, but we will frequently be able to exclude any suspicion of alcoholic indulgence or of sexual indiscretions, and to decide positively that the immoderate consumption of tobacco is responsible for the patient's condition; but to convince him of this fact, and to include him to forego his unfortunate habit is often an impossible task.

Among the various toxic substances producing amblyopia or impairment of vision, tobacco is known to ophthalmologists to be one of the chief. The poisoning by nicotine oceasions a retrobulbar neuritis which may result, if the tobacco habit is presisted in, in almost complete loss of sight. Tobacco amblyopia is known to result most frequently in heavy smokers of the pipe, who consume the strongest and most juicy tobacco. Many a man attributes his gradual failure of vision to advancing age,

when his fondness for a rank and ancient pipe is alone answerable for his condition. When the cause of the defective sight is recognized and the tobacco is abandoned, a cure usually results.

Certain other diseases, notably tabes dorsalis and general paresis have been charged to the acount of tobacco, but there is not sufficient evidence it would seem to prove a causative influence. Enough has been said of the constitutional effects of tobacco. A few words now as to its local action.

The irritative effects of tobacco upon the mucous membranes are almost invariably seen, to some degree, in all who use it largely, in all great smokers certainly. "Snuffing" is practically obsolete in this country and of its irritating effect on the nasal mucous membrane, we cannot judge by actual observation.

The habit of "dipping snuff" is very prevalent among women of the poorer classes in some portions of the South, and its evil results are manifold. In addition to the constitutional effects occasioned by this habit, shown in the muddy complexion, the dyspepsia, the palpitation of the heart and often neurasthenia and hysteria, there is the direct irritant action upon the gums; this is increased by the rubbing to which they are subjected by the snuff laden "brush" before it is tucked away in the cheek. A chronic gingivitis results, the gums recede from the teeth, the teeth drop out one by one, giving an appearance of premature and unlovely age to what should be a fresh, youthful, attractive face.

The chewing of tobacco, in so far as I have been able to observe, rarely causes local symptoms. The constant stimulation to the salivary glands occasioned by its presence in the mouth, has apparently no injurious effect upon these over-worked glands, and the mucous membrane of the mouth, pharynx and naso-pharynx is apparently no more prone to inflammation in the chewer than in the non-user of tobacco.

Constitutional symptoms are perhaps more frequently induced by chewing than by smoking. The confirmed tobacco chewer is rarely ever without his quid and is, therefore, more constantly absorbing nicotine into his economy than the smoker.

Those who smoke to any considerable extent almost invariably present evidences of local irritation. In how much the irrita-

tion is due to the more or less heated smoke as smoke and in how much to the plant giving forth the smoke, is a question. It is very probable that the smoke from any dried leaves would have an equally injurious action upon mucous membranes as the smoke arising from burning tobacco. According to some authorities, (notably Bosworth), the catarrhal inflammations found in the smoker are not due to irritation by the smoke but to nicotine poisoning. However this may be, a large proportion of all smokers have constantly a furred tongue, most marked in the morning, and a bad breath. This condition, as a rule, does not indicate any special derangement of digestion, but is due to a chronic superficial glossitis. Cigar smokers are less prone to it than users of the pipe, and tobacco chewers are nearly exmpt so far as my observation goes. The form of glossitis, commonly known as "black tongue," characterized by great elongation of the filiform papillæ with a blackish discoloration over a circumscribed spot of varying size, may sometimes be caused by the irritation of tobacco smoke; the two cases I have seen, at any rate were found in confirmed smokers.

Chronic pharyngitis and naso-pharyngeal catarrh are very common in those who smoke to excess. As I have said, Bosworth asserts that these cases are not due to local irritation from the smoke but to the absorption of nicotine and the disordered stomach occasioned by it. It is probably true, as he says, that the smoke does not reach the pharynx at all in ordinary cases. Any smoker knows from occasional experience with a green cigar or a very acrid tobacco, that the point of impact of the burning smoke in the anterior portion of the mouth and that no sensation of heat is felt in the pharynx. Beverly Robinson says nothing in his work of tobacco as a cause of naso-pharyngeal catarrh; neither does Morell Mackenzie mention it as an etiological factor. Other authorities, however, and I may instance Dudley Buck, accuse tobacco smoking of causing a chronic irritation of the pharynx and resultant disease of the middle ear from extension along the eustachian tube. He says the man who smokes heavily frequently presents a pharynx strongly resembling that of a scarlet fever patient.

The hot smoke from a short pipe is more apt to inflame the throat than is the cooler smoke of a cigar. Some men, while

using the pipe, constantly suffer from a more or less pronounced nasopharyngeal catarrh, which they are never troubled with using the less economical cigar.

Tobacco smoking has been said to cause epithelioma of the tongue and lip. Whether it does so is a mooted point, but as any prolonged irritation may produce a malignat growth in a subject prone to the development of neoplasms, it is probable that tobacco is at least an occasional cause of cancer.

There is no object in extending the list of disorders occasioned by the tobacco habit. Enough has been said to show that it is a frequent cause of disease, while it induces many more or less alarming symptoms that may lead to real disease.

Tobacco is a potent agent for harm. It should never be used by the young, growing boy or by the thin, nervous dyspeptic. The physician should always point out its dangers when he suspects it to be doing harm, and insist that it be given up at once.

REPORT OF CHAIRMAN OF SECTION ON PRACTICE OF MEDICINE.

By M. H. Fletcher, M. D., Asheville, N. C.

AFTER reviewing carefully during the past year a part, at least, of the abundance of literature which has been printed on medical subjects, and viewing it from the standpoint of a general practitioner, it is difficult to state just how much progress we have made. That which concerns us most is the treatment of disease, and I am not prepared to state that we can better or more unsuccesfully treat disease now than we could ten years ago.

I would not for one minute intimate that medicine is not a progressive science. Certainly not within my knowledge have the members of the profession been so thoroughly aroused as to the possibilities aud the future of medicine as at the present time, and the interes manifested is not cofined to the medical centres. The country doctor and the doctor in the remote districts is alive to the interests of his profession. When we see thousands of good men in the laboratories, in the hospitals and in private practice, all working along different lines and arriving at the same conclusion, with the same object in view, i. e.: the study of medicine from a purely scientific standpaint, good must result from it.

The greatest advances are being made in etiology, pathology and diagnosis, and however much we dislike to have our pet theories in regard to certain diseases upset, or how often we are driven from our beliefs when nothing better is offered us, still, medicine is each year getting further away from empiricisms, and is being founded on a scientific basis. When we understand fully the cause and know thoroughly the pathology, symptoms and course of a disease, rational treatment must follow.

The increase in the number of medical colleges in the country

may, in a measure, be responsible for an overcrowded profession and a number of other ills along this line, but at the same time, they are a stimulus to men to work and do good in this way.

In my judgement, one of the greatest dangers to the progress of treatment of disease lies in the encouragement given by the profession to the enterprising drug firms and the proprietary medicine m.n of the country. We often prescribe these remedies, the especial value of which consists in the way in which they are prepared,—a knowledge of which process we are entirely ignorant. 'Tis true, most of them bear a formula but I venture to assert that in nine cases out of ten when we prescribe these nostrums, we cannot tell just what size dose of each drug we are giving, or the effect each one is expected to produce. While the formula comes with the remedy, no competent druggist can make a similar product from the same combination. These enterprising drug firms, who have no interest in medicine except the commercial side of it, will try to monopolize everything that is new, and resort to every kind of method of advertising in order to get a "Run" on worthless remedies. The most discouraging fact in this connection is that we make our local druggist who, as a rule, is a competent and an educated man, a distributing agent for the nostrums; while the enterprising manufacturer grows rich, our honest local druggist starves and his knowledge of pharmacy runs to seed. The agents of these firms who are always polite and agreeable are becoming a nuisance; they infest our offices and claim a share of our time when we ought to be otherwise employed; they are persistent in exacting a promise to prescribe this, that or the other remedy, in order to keep it from falling into disuse.

I realize that our local druggist cannot always be a manufacturer of drugs, but he ought to be allowed to combine the remedies which are daily in use. There are a number of agents used in medicine, such as vaccine virus, antitoxin and other serums which should be propagated under the supervision of our government. Useful remedies of this class are liable to be dropped from our list owing to the fault of their preparation.

We offer as proof that medicine is a progressive science,—books written ten years ago are now out of date. The pathology and the practice are constantly changing. With our recent

theories in regard to the causation of disease being confirmed by so many good men, the pathology and then the treatment will follow and rest on a securer basis. There are still a number of questions in this particular which are yet unsettled in the mind of the general practitioner.

It is discouraging to note, for instance, in pneumonia, while its cause is better understood and we have made advances in its pathology and diagnosis, no distinct advancement has been made in its management and treatment; the death rate has not been diminished. If any drug exerted a specific influence in this disease, there would not be such a diversity of opinion in regard to its treatment. No two practitioners treat the disease alike,—one will advise you to use the cold pack, another a warm poultice. The pathologists tells us that there is hope of progress in this direction, now that its etiology is better understood. We are taught that the consolidations which occur rapidly in most cases are not in their nature purely inflammatory, on the contrary, the local exudation in the lungs is found to be dependent upon the presence of septic germs as a specific causative factor and the combined symptoms rank it as an essential fever. Our country laity are not so very wrong when they speak of it as "pneumonia fever." Even before we knew that pneumonia was dependent upon the presence of one or several micro-organisms, we were positive that it should be classed among the infectious diseases and that it was disseminated by contact. I believe that we can often prevent pneumonia by treating it as a communicable disease. In the future, the object of treatment will be rather to diminish the number of cases and protect the community in this way.

The usual amount of discussion has occurred during the year as to the best method of treatment of Typhoid Fever. No one at the present time questions that Typhoid Fever is due to a specific germ and the object of treatment is to get rid of these germs and their weapons the toxins, without injury to the patient. Since we have no specific remedy to meet the indication as referred to above, we have a large number of methods of treatment offered us, in which particular, the profession is widely at variance. I think that Dr. Woodbridge has received too much attention at the hands of the profession. If we exerted

our efforts to the destruction of these Typhoid germs and spent less time in the discussion of Woodbridge's pellets No. 1, 2, 3 and 4, science would be benefited. Some of our recent writers tell us that Carbonate of Guiacoal remains as such in the small intestine and will act as an antiseptic to the intestinal tract. At best, it is only a mild antiseptic and I doubt very much if the good effect of the drug along this line will counteract its bad effect by interfering with digestion. As yet, an ideal intestinal antiseptic has not been discovered. Neimeyer and other German authors a good many years ago advocated the use of large doses of calomel,—10 to 20 grains in the beginning of Typhoid Fever. I think it not only wise and safe to give these good-sized doses in the beginning of the disease, but it is equally as wise to give repeated and smaller doses, especially during the first weeks of the attack.

Osler says that his cases which are constipated get along best. He is very careful not to follow up the suggestion and advise that we produce a condition of constipation in all cases. My present belief is in free catharsis, especially in the beginning, large quantities of water internally and externally, and water as cold as the patient can bear it. It is difficult to state how often, if we can at all, abort typhoid fever; but I do know in my own section, a large number of cases of typhoid fever or typhoid infection will either abort or run its course in from 10 to 14 days. It may be argued that when typhoid fever aborts or runs a short course that there is a mistaken diagnosis. The symptoms are always such as to warrant a diagnosis of typhoid fever. The fever might be mistaken for malaria, but no competent observer has ever diagnosed a case of malaria in North Carolina west of the Blue Ridge among our native population who do not leave the mountains.

Your attention was called to the blood or serum test of Widal for typhoid fever at our last annual meeting. After being employed for a year, it shows just enough elements of uncertainty to make it of little value to the general practictioner. We had hoped that we had a test which was absolute in the early stages of typhoid fever. The blood examinations fail to confirm the diagnosis in about 12 per cent of cases. The test works on the blood shows the agglutination in about 12 per cent of cases

which are not typhoid, and often the test proves of value only during convalescence. Like sputum examinations in pulmonary tuberculosis if the baccilli are found it is helpful, if not found the examination is of little value. The Widal re-action can only be of value in certain doubtful and puzzling cases, and only then when we are near a well equipped laboratory in the hands of an expert.

The most remarkable advancement in medicine in modern times is the good results obtained by thyroid treatment in cases of sporadic cretinism and in myxœdema; up to a short time ago, these subjects received little or no attention at the hands of the general practitioner. In fact, the cases were so few that they were not diagnosed outside of institutions. Since the thyroid treatment has come into vogue, a greater number of cases are being discovered, and like appendicitis, which up to a few years ago was a rare disease, in future our medical journals will teem with reports of cases. In all seriousness, however, if such good men as Osler can be believed (and he is not an extremist on any subject), the cures reported in cases of sporadic cretinism are simply marvelous. When we think of the arrest of development of mind and body in these cases, their idiotic expression, the unspeakable affliction to their parents and relatives, and the changes that we are enabled to bring about with what may be called a specific remedy, the dessicated thyroid gland, it is one of the evidences that medicine is a progressive science.

Osler, in his admirable paper on this subject, has well nigh proven that endemic as well as spordaic cretinism results from a loss of function of the thyroid gland. The thyroid treatment is not of less value in cases of myxœdema and these cases also, Dr. Allen McLane Hamilton says, are of more frequent occurrence than is supposed. I was inclined to doubt the value of the remedy when my attention was first called to it, and fancied that I could see some resemblance between the principle involved in the action of the thyroid gland and Dr. Brown Sequard's elixir which brought medicine somewhat into ridicule, and I thought its fate would be the same as most new remedies which had been introduced in the past few years; but I had occasion to witness the use of the remedy in a well marked case of myxœdema, and while the case has not been cured, the whole appearanc of her

counten ance, skin and complexion, has changed, and she seems entirely relieved as long as she is under the specific influence of the thyroid extract. She began first by taking three grains three times daily and continued till she became markedly nervous and had symptoms of hysteria; remedy was discontinued till nervous symptoms subsided; remedy was renewed, five grains daily with same beneficial effects; occasionally, the patient becomes very nervous and the remedy is discontinued for a time.

The X ray is continuing to excite interest in the profession, although its use has not fulfilled first expectations, while is has proven of unmistakable aid to the surgeon, it is going to occupy a place in medicine as an aid to diagnosis. In diagnosis of thoracic diseases, it has proven of greatest value. Those who are thoroughly familiar with the use of the fluoroscope, not only report no harmful effects to the patient, but in a number of instances, it gives more accurate information concerning the location and extent of disease than we can detect in any other way.

"Dr. Francis Williams of Boston, in summing up the advantages of the use of the X ray, claims, (first) a given part of the chest may be darker than normal on account of the obstruction offered to the passage of the rays which is due to the increase of density that occurs in tuberculosis, pneumonia, infarction, oedema, congestion of the lungs, aneurisms, new growths, or to fluid in the pleural or pericardial sacs; (second) a given part of the chest may be brighter than normal because it is more permeable than in health by the X rays on account of the diminution in density due to increase in the amount of air in the lungs in case of pneumothorax or increase the amount of air entering the thorax and displacing the lung. The normal diaphragm lines which can be observed by the fluoroscope is of importance in diagnosing thoracic troubles. These lines vary on both sides of the chest in disease and include position, excursion and curve of diaphragm and the clearness with which they are seen. The fluoroscope gives us better assurance that the lungs are in a healthy condition than other methods of physical examination."

The most interesting part of my subject, serum—therapy, will be presented to you by my friend, Dr. Minor, who has kindly consented to write on this branch.

A FEW SUGGESTIONS ON PREVENTION OF TUBERCULOSIS.

By J. A. Burroughs, M. D., Asheville, N. C.

THERE has been so much written on the subject of tuberculosis since Professor Koch in 1882 first discovered the germ that causes consumption, we hesitate in opening any phase of the subject, yet we are excusable when we state, from statistics, that this is a disease that causes the death of every seventh human being on the globe, and further, if proper precaution and sanitary regulations were observed, in a short time the number of cases could be greatly reduced and longevity raised several years.

All admit that tuberculosis is an infectious disease, and at the same time must admit that all contagious and infectious diseases could be prevented if we only knew what to do.

Located as I am, handling hundreds of these cases from every quarter of the United States and Canada, it is appalling to note the lack of knowledge of the contagiousness of tuberculosis and the great danger the infected are to others. It is no infrequent occurrence foi a tubercular mother to expect to keep a baby and a few small children in her bedroom as no protest has been entered against the practice by family physicians at home.

As soon as a diagnosis of tuberculosis is made, first of all, without an exception, it should be communicated to the patient, and he should be informed of all known facts on contagiousness of the disease so that he would not be a source of danger to others or reinfect himself. The sputa is the principal means by which contagion is spread. All the sputa should be collected in a sanitary hand cuspidor and the papers removed at least twice daily and exposed to a strong solution of bichlorid of mercury, or cremated; see to the thorough destruction of these papeis or sputa, do not allow them to be thrown into the sink to infect people or cattle miles away; do not permit a blaze to consume

the dry portions of paper, leaving the sputa with its millions of germs unmolested to dry and do their deadly work; make the patient understand that it is the sputa you wish to have thoroughly burned.

Patients in the first stage, in fact all stages, of the disease do a greater portion of their coughing and expectorating on rising in the morning and it incurs no hardship to demand this duty of them, in which they soon acquiesce.

About two years ago the little city of Asheville, N. C. passed an anti-expectoration ordinance (which was, so far as I know, the first ordinance of the kind in this country) since which time one hundred and seventeen cities and towns in the United States have passed a similar law. It has proven a great educational feature with the masses and practically put a stop to the dangerous insanitary nuisance of spitting upon the sidewalks, in the street cars and public buildings, in the city where the anti-expectoration ordinance was originated. All cities that have passed this ordinance have experienced trouble in enforcing a strict letter of the law, millionaires have instituted suits for damages against corporations because of reproof and ejectment for vulgarly violating this ordinance, but this has only had a good, wholesome, and stimulating effect upon the people; it has put them to thinking.

The poor consumptive of today, who is properly informed, is careful with his sputa, he feels that indifference on this point may be death to others, cause him litigation, or hasten a crisis in his own case.

It is an admitted fact that no child is born with tuberculosis, yet they do inherit that peculiar, lymphatic, anemic, poorly nourished constitution which gives them but little or no resistance when exposed; to permit these unfortunate children to reside in tubercular homes with like habits and environments as their infected parents or relatives, is nothing short of criminal negligence. Such children should be removed to an altitude of dry, rarefied atmosphere loaded with ozone and perpetual sunshine; in conducting them into puberty and settled life, short school hours should be provided, with much time spent in the open air: this class should be induced aud taught the necessity of eating such food as will make blood and build up good,

healthy tissue cells so as to give them all possible means of resisting any invasion of this dreaded enemy.

I have at this time under my supervision many individuals and families of a tubercular diathesis who have undoubtedly escaped the disease by the above suggestion; at this moment I call to mind three younger members of a New Jersey family of ten, all of whom had died in quick succession with tuberculosis; these three located in western North Carolina eight years ago and no symptoms of tuberculosis have developed in either of them, the younger being now two two years older than any one of the brothers or sisters who died in New Jersey.

A complete change of climate in all tubercular families is wise sanitary advice and, to repeat, that change should be a higher altitude where the air contains a quantity of ozone and perpetual sunshine and is freer from gases and bacteria. It is judicious to note here that sunshine and ozone are deadly to tubercle bacilli and, to this fact is due immunization of the points like Mexico, Denver and Asheville, that have been for years resorts for consumptives.

It is possible for the well-to-do class to avail themselves of these sanitary precautions, but it is quite different with those less fortunate.

What we shall do with our tubecular poor is a big question, and one which demands the most serious and careful consideration by every State and municipal Board of Health; to diagnose these cases and report them to the local Boards and have them registered, does but little good beyond the general advice given, and swelling our statistics. What that class needs is some provision by State or city where they could be placed under the best sanitary regulations so as to protect an innocent community and, at the same time, offer them the best chance for an arrest or cure; it is more necessary that this class should have official care as they are largely ignorant and careless, and it is principally these people who lounge around lawns and suburban fiields, scattering millions of germs upon the grass which infect fowls, stock, and milk.

England has greatly reduced her death rate of pulmonary tuberculosis by providing hospitals for her poor; England has eighteen tubercular hospitals with the capacity of seven thousand beds.

With the exception of the States of New York and Massachusetts there has been no attempt at isolation of the bulk and file of tuberculosis in this country, so far as I know.

It is gratifying to note the good being accomplished in veterinary surgery under the various State Boards of Health in pointing out infected herds of cattle and disposing of same.

Every large collection of people should have a competent bacteriologist to keep a watch over its meat and milk supply, with an especial view to prevent tubercular infection; this official would doubtless save the corporation employing him, many times his salary, in pauper burial expenses, to say nothing of the protection to human life.

Mal-nutrition, insufficient food of a poor quality, and overcrowding of tenements and public buildings are subjects that are constantly confronting Health Boards and individual practitioners; each is a subject within itself.

I wish to say something in be half of our over-crowded school buildings and orphan homes; a glance at the pale, anemic faces in a public schoolroom would convince the most skeptical of the various results of improper ventilation. That many children become infected in the vitiated atmosphere of the schoolroom is a painful fact that is only too often brought to our notice.

If mountain air, containing as it does, large quantities of ozone, is beneficial, and often curative, in tuberculosis, why not bring a similar condition to bear in the insanitary schoolroom or other places where there is assembled a large and permanent collection of people.

It is a somewhat remarkable fact that ozone, which can be generated by means of an electric current with comparative economy and cheapness, has not been put to more extensive use for sanitary and prophylatic purposes: the extraordinary germicidal power of ozone has long been known and recognized by the scientific medical world: the ozonizing of the schoolroom and public building is a matter of minor mechanics. An ozone-generating apparatus is not expensive and can be connected with an electric dynamo; with the proper apparatus the whole building can be impregnated with this germ destroying gas.

In any large assemblage of children some one or more have tuberculosis which has not been suspected by teacher, family or

consulting physician. If the ozonizing of school buildings were put to practice, that source of tuberculosis, with all other contagious and infectious diseases, would be practically cut off, and the children would have a nice, sweet, clean, non-germ fluid to breathe: this idea adopted in the school there would be fewer constitutions prepared for tubercular infection.

In my judgment no hospital or sanatorium, either private or public, should be kept open unless there was ample provision for ozonizing the entire building from celler to garret. The statistics of mortality from tuberculosis in insane asylums and prisons of the different states, is sufficient to suggest a consideration of the above idea; all must acknowledge that something is wrong when strong men in a few moths after incarceration become tubercular. With an ample ozonizing apparatus placed in these prisons and asylums, there would be marked dininution of tuberculosis.

The ozonizing of all hotels and especially Pullman cars is the most rational solution of the danger along that line. Permit me to state that in one of the "babies wards" of New York Post-graduate Hospital where an ozone-generative apparatus is used, contagious diseases are almost a curiosity, whereas in non-ozoned wards quite a number have occurred.

Some ingenious pathologist has stated that the consumptive cadaver contains about eleven million tubercle bacilli: am not prepared to substantiate or deny the above statement, yet it is quite reasonable to presume that the calculation is approximately correct: we do know that these bacilli will live in the ground for more than a quarter of a century, retaining all the vitality of the same germ that was carelessly deposited in the hotel lobby the day before; knowing this, it does seem reasonable and practicable, from a prophylactic and sanitary position, that all tubercular dead should be cremated; to bury this class means to infect the soil and contaminate dependent water supplies for man and beast for more than a generation; a concerted action of all the civilized world in cremating its tubercular dead might not have much effect upon this generation but would lessen the dreaded disease for those who come after us.

There are many points of vital value on prevention of tuberculosis left out of this little paper which I trust may be brought out in the discussion.

The laity, as well as the profession, is wakening up to the contagiousness of this disease and, in the judgment of some of our best thinkers, there will soon be a pronounced, recognizable reaction in the number of the tubercular; indeed a preceptible reaction has already begun, as is observed for an editorial in the *Journal of the American Medical Association* of February 26th, 1898, where the statistics from twenty of our principal cities having a population of seven million and five hundred thousand, have shown a decrease of the tubercular death rate thirty-three per cent since 1888, which is tersely ascribed to a more general knowledge of the contagiousness of the disease, better food supply, and more perfect sanitation.

DISCUSSION.

Dr. Kent:—After this paper read by Dr. Burroughs, I feel my inability to add more than simple emphasis to the position taken by him, but I do wish to emphasize the matter of preventive measures in tuberculosis. If tubercular phthisis be a contagious infectious disease, then it is preventable, and if preventable, it behooves us as custodians of the public health to bestir ourselves that something effective may be done. Dr. Koch some sixteen years ago demonstrated the fact of the causal relation of bacillus tuberculosis to consumption. During that sixteen years of time, the most able scientists have been confirming his conclusions. That there are some who still doubt, we must admit, but while we admit it, I can frankly say it is well for us that there are those who have doubts. It makes discoverers more careful, it makes them more painstaking, and stimulates research, but the fact that there are those who doubt does not disprove, and it stands today among the best of the profession a well-admitted fact that consumption is a contagious disease. Then, if contagious, what must we do? Shall we ask the Legislature to pass laws? In my opinion we must, but before we can enforce laws, we must have the moral support of the people, and in order to have the moral support of the public, we must educate them. We as leaders in this fight must teach it to the people, we must teach it in season and out of season, and so preach it that the people will learn it, and that once having learned it, they can put it into practice, for nothing is of value that cannot be put into practical use. I am glad to be able to say that our higher institutions of learning are already armed and equipped with proper information on this subject. I have had some little correspondance with our best equipped institutions, and I find that they are already enforcing proper sanitary regulations in regard to this disease. I am proud that it is a fact. These are

the fountain heads of knowledge in our State, and from them it will gradually trickle down; but, gentlemen, more may be done, and more may be done quickly. It should be taught in the homes, it should be taught in the common schools, it should be taught in the high schools, it should be taught in the colleges, it should be taught in the hotels and boarding-houses, it should be taught in the church and in the State, and we can continue so to teach and so to preach it that the people will be ready to join hands with us in the battle against this arch enemy to home life. If we once get the people educated upon the subject, then we are ready for strict laws, and these laws will be enforced. Gentlemen, it behooves us to teach them. Once we have taught them this, with willing hand and educated brain and determined mind, they will take up the work with us, and with one common cause we can go on to the extermination of this greatest enemy to human life.

Dr. Lewis:—I wish to express my gratification at the excellent paper read by Dr. Burroughs, and the no less excellent remarks of Dr. Kent. I think he has struck the key note when he speaks of the profession as the custodian of the public health. I do not think that anybody can deny that every physician is a health officer morally whether he is really so or not. It is a simple matter of education. Laws amount to nothing unless the people are willing to carry them out. There are one or two practical things I think we could carry out without any trouble if we would simply call attention to them. The ordinance against spitting in the street in Asheville is very well, and I am glad that the laws of the city of Asheville have done that. You all know, as Dr. Burroughs said, that sunshine and ozone are fatal to the life of the tubercle baccillus. People spitting out in the street out in the open air is not so dangerous as spitting in the houses, the dark unventilated houses where the bacteria flourish. To illustrate that point, I quote from the last Bulletin from Ohio, the history of a house in Ohio, in which there had been three deaths from tuberculosis evidently contracted from an original case in it. All these families who moved into the house had no hereditary predispositon to the disease. This seems to me to be a striking object lesson, and I am satisfied bears materially on the subject. If the profession insisted upon it and impressed the fact that tuberculosis is a contagious disease, and that if the patient don't take the proper precautions, they will not only die quicker, but will cause the death of those nearest and dearest to them, dearer to them than their own lives, I believe that there will be no difficulty in carrying out the proper precautions. As I intimated a moment ago, the most important of all is the thorough disinfection of rooms occupied by tubercular patients. If we could ever get the sentiment instilled into the minds of the people, that under no circumstances should they rent a house

in which a case of consumption had lived, unless that house had been thoroughly disinfected and an official certificate to that effect be presented, I believe it would have a very great effect. Of course isolation of tuberculous patients is desirable, but practically it cannot be done. You can't take children away from parents, and the poor you can't manage because we haven't the money, and we all know that public sentiment in North Carolina is not ready for making an appropriation to take care of consumptives. If the profession would impress upon the people the fact that tuberculosis is a contagious disease and that general sanitary precautions should be taken, and above all absolute and thorough disinfection and ventilation of rooms, which can be most easily done, I believe great good can be accomplished.

Dr. ————:—The discussion of this paper has so fully covered the ground that I have very little to say. I rise simply to endorse what the doctor has said and what has been said by the gentlemen who preceded me. I think, sir, that we cannot ring changes upon the prevention of tuberculosis too often. Every gentleman who has spoken has emphasized the necessity of educating the public along this line, and the only way we can educate the public is to keep talking about it. I do not believe we can spend an hour more profitably in any medical meeting than in discussing this prevention and means of preventing tuberculosis. One or two points I would like to call special attention to. One is the practical matter of preventing tuberculosis among physicians themselves. I think, if you will excuse the personal reference, that I inherited a tubercular tendency from my father. Every time I go to see a tubercular patient, it hangs over me like a terrible nightmare, and after every visit I take the precautions to wash my hands and my face, and particularly my beard, because it is by these means that the bacilli may be conveyed into the lungs. I think that the very reason that tuberculosis is so mildly infectious constitutes its most dangerous element. If we could show that it is as infectious as scarlatina or diphtheria, we might hope after a little while to take up some practical measure and insist on instituting measures to prevent it, but it is because it is so mildly infectious that we have such a hard time to educate the public. But to return to the point which I just mentioned, and that is tuberculosis among physicians. We all have seen it, and we have all had friends who have had it and have died of it. The practical question comes, how did they contract it? It is quite possible that we might set a good example to the laity by instituting some reforms ourselves, and in that way we could show them that it is important that we should disinfect ourselves. I have seen physicians and heard them talk about disinfecting themselves and isolating cases of scarlatina, etc., and yet this same

physician would go to see a case of scarlatina and yet wear the same clothes and hat and overcoat, and never disinfect his hands or face or anything and go to see another patient. I say that we can best educate the public perhaps by instituting some reforms ourselves along this line.

Dr. Spencer reported the case of the keeper of the poor house for the aged and infirm in Caswell county who died not quite two years ago with phthisis. No family history of phthisis whatever. Since that time two children have died, and two remaining children now have phthisis. The wife now has tuberculosis, and two laborers who were there a while have also tuberculosis, or rather, they did have it, they are dead.

Dr. Reagan:—I know of a case which I would like to bring before the Seciety, which I think shows strongly the contagion of the disease. It was that of a gentleman of Peoria,, Ill, who is now at my house. He was broken down from hard work and was advised to go to Colorado. They examined him there and pronounced his lungs perfectly sound. In the hotel and in the streets there were no sanitary regulations at all, and the result was that after a stay there of a few months the last examination revealed, as the doctor said, some bugs in the sputa. He came to my house over eight months ago, and has had no hemorrhage since. He weighed 117 pounds when he came there, and now he weighs 137. I say then let us try to educate the people. I remember that about four or five years ago we discussed this thing in the Medical Society in Asheville, and one physician who was treating the disease contended that it was not contagious. He said that the attendants and nurses in the hospitals never contracted the disease. But that idea has given way and the Medical Society of Asheville has been able to pass an ordinance, endorsed by the town authorities, that prevents spitting on the sidewalks or in public places.

Dr. Walton:—I know of a case where the parents and two boys and two girls died of pithisis in rapid succession. After this the three living children broke up housekeeping, off, moved and none of the rest developed phthisis. This is pretty strong evidence of the contagiousness of tuberculosis. The mother was not of a consumptive family, and there was no heredity of that kind on her side. It was hereditary on the father's side.

Dr. Anderson.—I would like to say something in regard to the importance of making a correct diagnosis in these cases. Of course all of our patients who cough haven't consumption by a long ways, and those who don't cough, and very often look well, may have the beginning of consumption. I have in mind some few cases in my own town where it was important to make a diagnosis with the microscope, and we waited too long. One young man in my own profession who graduated only a little over a year ago, delayed having an examination made last sum-

mer, and when he did found tubercle bacilli in great abundance. I believe that if he had had that examination made twelve months ago and had taken the necessary precautions towards stamping out the disease, and had gone to some suitable climate and taken tonic remedies, using every precaution known to him, that perhaps he would have checked the disease and been on the road to recovery to day. It is a sad thing to look at that young man, so well prepared for his work and so devoted to his profession, it is the saddest picture in the history of my life. Another case I have in mind is that of a young lady. She is the very picture of health, or at least was six months ago. She had throat trouble, so her physician thought, with no tubercular trouble connected with it. Her trouble went on until she consulted a specialist, Dr. C hisholm, of Baltimore, and he treated her there a while. He asked for a specimen of the sputa, and just about the time she sent it, she consulted her physician and sent a specimen to me. I examined it, and found tubercle bacilli, much to my surprise. I never made a physical examination, though her doctor could discover nothing. I wish to press the point that it is important to make a bacteriological examination with the microscope. It is the easiest thing done in bacteriology. We can absolutely tell from a stain of the bacilli, and we can hardly say that of any other germ, without culture. So peculiarly does it retain its stain that it is one of the easiest examinations to determine. It is an easy thing to, do and I believe that any doctor could learn how to do it in just a few hours time with a suitable magnifying lens.

Dr. Hunter.— I rise to inquire for information. If tuberculosis is so contagious and so contaminating, why is it that we never find our patients in the beginnig of the disease at the age of 50 or 60 years? I have never seen, to my own knowledge, a case of tuberculosis that has been contracted after the age of 50 or 60 years If tuberculosis is so contagious and so contaminuting to younger persons, it seems to me that in the older and more depleted frame, it would be more so. I would like to have some light on this subject.

Dr. Carr—recited an instance in Switzerland where a soldier contracted consumption abroad and coming to his mountain home, his wife took the disease, both dying. A regular epidemic ensued, and an eminent French physician who investigated the matter came to the conclusion that the disease was spread by eating chickens which were sold about the place by the father of the woman. It was known that the chickens were in the habit of eating the sputa hwich the woman would expectorate upon the ground.

Dr. Crowell:—It seems to me almost impossible for disease to be communicated in that way, especially when the chicken was cooked, as heat would destroy the bacilli.

Dr. Carr:—We are not certain that they were cooked. Some people like rare chickens.

Dr. Brownson:—I wish to say a word about the case referred to by Dr Reagan. It seems to me that that was an instance which would show that great care should be exercised in making a diagnosis rather than showing that the disease was contracted later. The patient was said to be broken down and was sent to Denver, which to me would show that he was suspected of a tendency to tuberculosis, and that the tuberculosis was not discovered in the examinations, not after he got to Denver. It seems to me it does not prove that he did not have it when he went. It might be called latent tuberculosis, or so slight that it was not at first recognized. I frequently examine cases supposed to be tuberculosis without finding positive evidence of it, but still, if I do find it later, I do not suppose that the patient has been infected since I first examined him, but rather that he had it all along, and I failed to discover it.

Dr. McMullan:—It is rather too late for the Society to discuss the infectiousness of tuberculosis as it is an accepted fact. The only question is as to the degree. It would be very nice if we could have as Dr. Burroughs suggests, an apparatus in the cellar to keep a flow of ozone through the house, but while this is impossible, we can have a good supply of God's pure air in which there is at all times a supply of this blessed ozone. The great increase of consumption among the negroes since the war seems to be due to the altered mode of living. In ante-bellum days they lived in houses with big chimnies in which burned a roaring wood fire, which carried a column of air four feet in diameter out of the room, fresh air coming through the cracks. Now they are huddled in the cities, live in small rooms with stoves which give no ventilation, leaving the air stagnant. The air is breathed over and over again, and I would as soon expect a person to take into his alimentary canal over and over again his own dejecta and not contract disease as for him to breathe over and over again his pulmonary exhalations and not suffer. The same reasoning applies to the North American Indian who has had to change his life in the open air for one of laziness. It applies also to the modern habit of building houses with steam and hot air heaters. In these homes the people live and swelter and their skins are not taught to resist the influence of cold. I instruct my patients as to the manner of building their houses; and I think that we should instruct our patients that at night and in the summer one window should be thrown wide open to admit a good supply of God's pure atmosphere.

Dr. ——:—I was interested in what the gentlemen said in regard to the cause to this, but there seems to be something more than bad air. I myself practice in the country, where we have the kind of houses he described, open walls and all that,

yet I think I can say that in eighteen years of practice that one-third of deaths I have had among this negro population, has occurred from tuberculosis, in these open houses and in the open country. There seems to me to be some other cause, possibly because they are badly clothed and badly fed.

Dr. McMullan:—I do not claim an instant that bad air will give a man consumption. I simply contend that it harbors the germs in concentration, and that it therefore makes you more vulnerable. Most of these darkies go to church and sit for hours and hours in this vicious atmosphere.

Dr. Burroughs:—I thank the gentlemen very heartily for their discussion of this paper. It has met the ends for which it was written. I wish to say this, that a tubercular patient is not considered dangerous to other patients as long as he is careful of his sputum. The physician attending and the nurses who nurse the tubercular patients are in the least danger of any of the contagious and infectious diseases, because it is so easy to control by destruction of the sputum. I can say this, that I appreciate the remarks of Dr. McMullan on thorough ventilation. If we have the old-fashioned chimney, open doors and windows, and plenty of sunshine and fresh air, we get a plenty of ozone in our atmosphere, and ozone and sunshine are what kill. One point has not been brought out, on which I wish to lay emphasis. It is this, that every room which has been occupied by a consumptive should be disinfected as thoroughly, and sterilized, as if death from consumption had occurred in that room. It is bad sanitation to allow consumptives to move from house to house and others move into the rooms. In Asheville we have every consumptive registered and we have him give his residence to the Board of Health, and if he moves his residence, we have the Board of Health notified, and the physician who is up to his business sees to a thorough sterlization and disinfection of the rooms after the patient has gone. When our patients come to us, we see that they come into a room that is thoroughly sterilized. We do not sterilize our rooms with ozone. That is for larger institutions. The cheapest and best way to sterilize a room where a consumptive, or any other contagious and infectious disease has been, is by means of sulphur. Eight pounds of sulphur burned in a room 15 x 15 and burned eight hours, will sterilize it.

In reply to a question as to the manner of using sulphur Dr. Burroughs said dry sulphur fumes would kill the germs. However Dr. Fletcher stated that as a matter of fact steam was always generated along with the burning of the sulphur, and he believed the dry sulphur worthless. In regard to formaldehyde, he had not experimented with it himself, but referred to the report of the President of the Board of Health of a western state, whose experiments showed it to be unsatisfactory in disinfecting rooms infected with tubercle bacilli.

MEDDLESOME GYNÆCOLOGY.

By H. S. Lott, M. D., Salem, N. C.

MUCH has been said and written, with justice on the subject of "meddlesome midwifery." It would be well for the profession to devote some time, and thought, to meddlesome Gyæncology.

The experimental stage of this branch of work is past; it is no longer a question of haphazard "uterine tinkering," but a distinctive and preeminently a special branch of surgery, wherein we may determine with a large degree of certainty, knowing the past history, what is the pathology and prognosis in a given case of intra-pelvic disease, and the treatment which gives greatest hope for the future comfort of the patient.

There comes an era in the march of all progress wherein it is well to review what has been done, being thus enabled to separate the good from the bad, render more perfect the result of past work, and come nearer to truth, which is the aim through all, and if in doing this we set aside instruments, methods or procedures it is not through disregard for their originators, but rather because we trust and honor them and are led by our very faith in the summary of their life-work, with deductions therefrom, and our own convictions, to abandon that which is hurtful and use that which is helpful.

To say that I never believed in and never practiced certain procedures which are largely the capital of men who are called gynaecologists, would carry with it little weight, but to quote from the life-work of the recognized masters, who in faithful trial of such procedures, have "weighed and found wanting," must have weight both in guiding our conscience and our hands. Says T. A. Emmet, so early as 1884, "It is believed that in time professional opinion can be influenced to abandon intra-uterine medication, as one not based upon sound views of pathology; to

recognize the different forms and shades of pelvic inflammation outside of the uterus, now usually overlooked, as constituting the chief factor in the diseases of woman; and that the exciting causes of reflex disturbances will be more generally admitted." This same author says: "We shall have made great advance in solving the problem as to the true pathology of many supposed uterine diseases when we seek the cause outside of the uterine limits. For many years I have been convinced of the truth that we had been misled by confounding cause and effect." And again,—"We look in vain after death for any evidence of metritis or endometritis or for ulceration of the cervix as it is termed, for neither of the conditions, so called, is inflammatory."

Therefore under the old nomenclature gynæcologists were justifiable in treating "ulceration of the womb" with caustic applications even though such treatment was followed by "the formation of cicatrical tissue about the cervix," with its accompanying train of symptoms such as, "general nervous irritability and neuralgia in different parts of the body." But under the light shed by the pathology of today we know that no such ulceration exists, and that this condition of the os and cervix is almost always that of everted tissue, resulting from a tear which has occurred during child-bith, and that nothing short of removing such tissue, and uniting the freshened edges by a plastic operation, gives promise of permanent relief to the patient. Under the same head comes, incising the cervix for flexures,—forcible dilatation, especially of the virgin woumb,—curetting, and vaginal puncture.

Incising the cervix is inflicting a wound which is unnecessary, unjustifiable, and cannot be cured, or, union occurring, there results a cicatrix which, as a local irritant multiplies the discomforts of the patient, and the dangers, many fold. Lawson Tait in speaking of this procedure in connection with the stem, in the treatment of what he terms "infantile uterus," says: "But looking back on my experience of pelvic surgery for the last fifteen years, I am entirely satisfied that it would have been far better for the world if neither of these proceedings had ever been heard of, especially the use of intra-uterine stems." And Emmet in closing his chapter on treatment of flexures of the

uterus,—and results of incision,—disposed of the subject in this sentence, "Great care can be exercised in the proper selection of cases, and in the needed preparatory treatment so that comparatively little damage may follow a division of the cervix. But so much harm has resulted from the operation, and so little permanent benefit,—if any,—has been derived that humanity would be the gainer if public opinion in the profession would forbid its performance. There are a few rare cases of congenital flexures of the neck below the vaginal junction, and a smaller number of permanent flexures of the body, where sometimes the operation may be of service. But these cases are so rare that I have not divided a cervix uteri in eight or ten years, nor in that time have I met with a single instance where it would have been justifiable to perform the operation; and yet it is one which is being constantly performed in the most irresponsible manner in ignorance of the cause of the difficulty and with perfect indifference as to the consequences."

Joseph Price says that forcible dilatation is a "Traumatism" and should never be inflicted. This is especially true of the virgin womb, and yet this procedure, followed "under strictly aseptic methods," by a "curettage" is largely the stock in trade of numbers of routinists who are called gynæcologists. Recently I received a letter from a young man asking my advice as to the best course to pursue in order to prepare himself for the "routine work in gynæcology." Just think of it! What will become of the work when the workmen in flesh, blood and nerves, with all their vagaries, become routinists? And thus they are started out, armed with a *stretcher* and a *scraper* and fully licensed to inflict irreparable injury upon their hopeless and innocent patients.

Even for the removal of placental tissue after labor or abortion the man who has intelligent fingers does not need the curette, and the man who has not intelligent fingers has no business in the uterus at all.

Numbers of women conceive the idea that they have "womb trouble" when in fact they have a perfectly normal perineum, vagina, uterus, and appendages. Recently a husband, consulted me, much distressed because of his wife's sufferings from "falling of the womb," "her distress was great and there was no doubt about the condition, for her family physician had told

her so and she had worn an instrument." Now the odds were much against me when upon examining this woman I found the reproductive organs in no abnormal position or condition at all, —but just where the urethra entered the bladder an exquisitely sensative point. An examination of the urine, and finding it loaded with pus, confirmed the diagnosis of vesical catarrh, and forty grains of boracic acid daily, (ten grains, in capsules, after meals and at bed time)—in spite of her utter disbelief in my opinion and treatment, after a very few days, gave entire relief.

It is much harder work, and requires closer observation, to be able to recognize a normal pelvis, and pelvic organs which are not incompatible with the health and comfort of the patient than it is to find a misplaced uterus, or other pathologic conditions when existing,—and in many of these cases it is a much easier task to gravely touch the cervical canal with a sound, and swab the vagina with cotton twice or thrice weekly,—in short to "give them treatment"(?) than it is to correct the mental error and convince them that they need no tinkering at all.

Vaginal puncture, for suppurating inflammation of pelvic organs, *is a stab in the dark*, and may be ascribed rather to timidity, than to a thorough investigation of results. That numbers of abdominal sections are done unnecessarily, I fully agree, but it is not such we are considering,—we cannot be responsible for the work of fanatics,—it is those in which there is pus in the pelvis which should be let out; and that its evacuation through the vaginal vault is simple and easy of execution, neither guarantees the future relief and comfort of the patient, nor establishes the wisdom of the procedure.

The cases in which the vagina affords a favorable field for work are few, and cases in which it is possible to determine beforehand the exact pathologic conditions, or position of the pelvic contents, and just what should be done, are none at all. It is just in this particular that the work of the gynæcologist differs from that of the general surgeon. In fact the very years of ripe experience which best fit the general surgeon for the noble work in his broad field,—*unfit* him for successful work in abdominal and plastic surgery. There should be no rivalry between the two, each has in view the prolonging of human life and the relief of human

suffering, and to go hand in hand gives strength to both. You do not hear of rivalry between the carpenter and the cabinet maker,—the world and the work are large enough for both, nor would you entrust to one a piece of work which you knew came within the province of the other.

A stab through the vagina may, by a happy chance, give vent to pus and *seemingly* relieve the patient, but, with the lights of today this fact does not relieve the hand that inflicts it of responsibility in the matter; nor does it save the patient from suffering which follows incomplete work, and the extensive bowel adhesions and lesions "with universal fixation of tubes and ovaries" (Price) which are found when she finally comes to the hands of the surgeon who is equipped to do *clean, thorough work.*

DISCUSSION.

Dr. McMillan:—I was deeply interested in the iconoclastic paper of my worthy friend and brother. In chaste and beautiful language, he told us how *not* to do it, and I listened with the gravest attention possible to find out from him how *to* do it. How does he correct these troubles that come to us in our practice from day to day in our female patients? When I have a patient come to me suffering from all symptoms of pelvic disease, and on making an examination find the uterus suffering from subinvolution, misplaced and discharging a glairy substance very much like the dysenteric discharge we have in bowel trouble, there is a way which I have used that has always given me good results, and though the treatment is often tedious, if presisted in, I generally get there. I believe in tamponing with the boroglyceride tamponade, and in proper applications to the interior of the womb, the endometrium, and after a while when necessary, lifting of that uterus on a well fitting retroversion pessary, when by so doing we would confer a benefit upon the patient, and in a great many instances cure the disease. Again, when he mentions vaginae atresia cervici, he tells us we must not cut, he tells us we must not dilate, but he fails to tell us how we shall releive the excessive and excruciating suffering that many of these dear ladies suffer. As long as any medicinal agent can be found to relieve them, it is improper to meddle, but when month after month I have exhausted every available resource and still find the patient doubling with excruciating pain and upon the verge of convulsions, what am I to do? I would like to ask the gentleman when he has atresia of the urethra, does he quietly sit down and fold his hands and use no means to dilate that stricture? I would get my coarser curette or sound and

try to establish the normal caliber of the canal. I see no earthly reason why we should not attempt to establish the normal opening in the cervix uteri and I have conferred great benefit by gradual and careful dilatation from time to time. In the meantime, if the virgin should become married, that solves the whole riddle. I would be very glad if the doctor would tell me how to get over these difficult points without doing some of this which he characterizes as "meddlesome gynecology." It is not a pleasant thing to me to have to do it, and I take it up with reluctance when I find it has to be done.

Dr. Sikes:—There is one point in the doctor's paper I noticed, and that is in regard to the educated finger. My experience has been different from his as regards the educated finger. It is one of the most useful instruments, especially in cases of early abortion. Some of the most troublesome cases we have are excessive hemorrhage from early abortions before the cervix is not sufficiently dilated to pass out the product of conception. Sometimes life is very much endangered, and instead of waiting until the cervix is dilated enough for the product of conception to pass away, as soon as we find that abortion is inevitable, with a little, long-handled dressing forceps introduced at the end of a skilled finger—a skilled finger is a great acquisiton to the practical physician—we can remove this little product of conception and it frequently puts the woman instantly at rest, arrests the hemorrhage, and in that way effects in a most excellent result. I have in mind right now a case I had only a few weeks ago in which death seemed quite imminent from loss of blood, and in five minutes after I entered the house and removed the clot, there was not any more hemorrhage and the woman recovered.

Dr. McGuire:—It gives me great pleasure to meet you all in this session. I had intended to come here as a listener, and not to have anything to say. I have always been afraid of the North Carolina Medical Society, because I never met a North Carolinian who could not make a speech. When I was coming down here, Dr. Edwards, editor of the Virginia Medical Semi-monthly, said to me, "McGuire, don't you say anything down there. Those North Carolinians always make speeches, and they'll beat you all to pieces." So I determined to keep quiet until my friend brought me before the Society.

In regard to the discussion of the paper of Dr. Lott, I cannot agree entirely with the doctor in regard to the operation of dilatation and currettment. I am sure I have seen dilatation repeatedly do good, and I do not hesitate to resort to it whenever it is demanded, either for constricted cervix or anteflexed uterus, so that the circulation and discharge are interferred with, and if it is kept up for a sufficient length of time, will produce an irritable condition of the nerves leading to the endometrium, and in a little while you will have, besides the pain incident to menstru-

ation, that incident to nervous hyperæsthesia. I have seen these cases of dysmenorrhœa relieved easily and for a long time from the simple operation of dilatation. It is a perfectly safe operation if done in a clean way and there is no danger at all. Of course I would not dilate if there was intra-pelvic trouble which produced the painful menstruation.

Curettment is another valuable operation. I have the highest opinion of Dr. Price. I know him personally and I have seen him operate a great many times. He is not very fond of that operation, but he is very often a little extreme in his views. It is an operation accepted by the entire profession almost, with the exception of Dr. Price, all over this country, the operation of curetting and dilatation. I know of no simple operation which will so spedily give relief as these two, if done under the proper aseptic conditions. Of course we sometimes have cases in which remedies are useful to the endometrium, but I am not very much of a believer in intra-uterine medication. It ought to be done under the most perfect aseptic conditions, the same as a surgical operation, and in a great many cases, instead of the prolonged use of Churchill's Tincture of Iodine, the endometrium could be relieved much more quickly by the operation of curetting. Local application to the vagina I do believe in, and I have seen it do good. After pelvic inflammation I frequently resort to a species, you may call it, of uterine tinkering to reduce the congestion.

Dr. Royster:—I am very glad that the discussion of Dr Lott's paper was called up before it was too late, for I am sure it is worthy of discussion by the Society. I came in late and therefore heard only the latter part of his paper, the part which perhaps interested me most, and on which I will try to make a few remarks, vaginal versus abdominal section for pus accumulation in the pelvis. It has been discussed and rediscussed for the past fifteen or twenty years, and professional opinion is constantly changing and rechanging. The French school of vaginal sectionists for a long time held sway, perhaps for the last three or four years, when opinion seems to be switching the other way, certainly at least in this country. My personal opinion in regard to this matter will not go very far, because my experience has been small, but the experience I have had justifies me in asserting a very conservative opinion on the question. And that is, that every case is a law unto itself in this regard. While in most cases treatment by the abdominal route is the cleanest and nearest way, there are other cases in which the vaginal puncture is safest. I should hate to attack an accumulation of pus in the pelvis which was low down, seemingly walled off, through the abdominal passage-way, but should certainly not hesitate to open it through the vagina and give the woman instant and temporary relief. If there were any secondary operation to be

done, I should feel more like attacking it through the abdomen. I have also done two vaginal sections for extra-uterine pregnancy, in the latter stages after the cessation of hemorrhage, and a case which presented true pelvic hæmatocele, walled off, in which the patient's condition was favorable. I have done two like that Dr. Kelly described, making an incision in the median line and following that with the fingers or scissors and removing the clots, washing with a salt solution, and also cleaning out the products of conception, if any remained. Both of my cases resulted in perfect cures. The last was over a year and a half ago, with absolutely no return of the pelvic symptoms. She has since become pregnant, and is now six months in that state. I am not a rabid abdominal sectionist, nor am I wedded to vaginal sections in all cases, but I hold the conservative view that I always treat every case by itself and of itself.

In regard to curetting, I must do myself the honor to agree with Dr. McGuire. I know of no simple operation in which the results are so satisfactory as in the simple operation of curettage of the uterus, either from troubles arising from bad development or from inflammatory diseases of the uterus. It must be done with the precautions which we would undertake in doing a perfect abdominal section, aseptic throughout. The different methods of doing curetting matter little, because if done promptly, any way is always good. In the matter of longer treatment, gynecological treatment, I have given that up entirely except in the matter of preparing for subsequent operations. Douches, tampons, boroglyceride treatments and applications to the vagina all do good, but if there is any deep-lying organic trouble, nothing but a surgical operation will relieve. I hope that this question of vaginal versus abdominal section for pus accumulations by inflammatory pelvic diseases will receive some discussion, because I am sure it is of interest to all of us, and it has never been fully discussed in the State.

Dr. Lott:—I would like to have a moment in order to thank these gentlemen most heartily for the discussion My greatest hope in writing the paper was to bring up the discussion and throw light upon this subject.

REPORT OF CHAIRMAN OF THE SECTION ON OBSTETRICS.

By W. G. Stafford, M. D., Burlington, N. C.

FROM one hundred blanks sent to representative members of the North Carolina State Medical Society, I have received fourteen responses. These reports contain a summary of important cases treated during the year ending April the 15th 1898. It is to be regretted that so few reports were made. Still, there are enough to serve to illustrate the methods obtaining within the borders of our State and the success attending them: One case of caesarean section for extra uterine gestation is reported by Dr. J. B. Powers. Operation performed by Dr. Hubert A. Royster, Dr. Powers being disabled by a carbuncle. The operation saved the life of the mother. Both children died.

Dr. W. O. Spencer reports two cases of placenta prævia, one central, the other marginal; four cases of puerperal eclampsia; three cases of forceps at pelvic brim; four cases of forceps in pelvis; three cases of version in utero; three cases curetted after labor; and nine after abortion. No case of death of mother; but three cases of death of child.

Dr. Henry T. Bahnson reports two cases of forceps at brim of pelvis, and five cases of forceps in pelvis. He reports one case of septic trouble, cause unknown, resulting in death of mother. No death of child.

Dr. J. Howell Way reports one case of forceps at brim of pelvis; two cases of forceps in pelvis; four cases curetted after abortion—prompt recovery in each case; two cases of version in utero, one of which was a *pseudocephalus*, classification after Geoffery St. Hilaire, and was still-born. One case of forceps in pelvis was in consultation, after ergot had been freely exhibited. No case of death of mother.

Dr. I. W. Faison reports a case of puerperal eclampsia,

with shoulder and arm presenting, in which craniotomy was done and forceps applied in utero. Mother recovered.

Dr. E. F. Strickland reports one case of forceps at brim, three cases of forceps in pelvis, one case of version for shoulder presentation, one case of septic trouble treated by curette, due to infection by retained membranes. He also reported an interesting case of twins of unequal development, and one case of triplets. These will be elaborately reported by Dr. S. in his paper.

Dr. W. H. H. Cobb reports six cases of forceps in pelvis, one case of version, two cases curetted after labor and four after abortion. He reports one case of sepsis due to typhoid infection, and two cases of *post partum* hœmorrhage. No death of mother or of child.

Dr. Geo. W. Long reports two cases of *placenta previa*, one seen in consultation. Both were treated by podalic version and delivery. Both mothers were saved, both children lost, being at 7th month in utero.

Dr. W. P. Ivey reports one case of shoulder presentation, which he treated by version. Mother and child saved. He also reports one case of septic infection, and one of *post partum* eclampsia. No death of mother or child.

Dr. Chas. J. O. H. Laughinghouse reports eight cases of forceps applied in pelvis, three cases of version, one case curetted after labor, and six cases after abortion. No case of death of mother or child.

Dr. Thomas M. Jordan reports a case of embryotomy on account of deformed pelvis. Septic trouble developed followed by the death of the patient.

Dr. C. N. Roberson reports two cases of *post partum* haemorrhage. Patients recovered.

Dr. W. P. Beall reports seven cases of forceps applied in pelvis; one case of *placenta praevia*, treated by version and delivery. Both mother and child saved. He reports four cases curetted after abortion, two cases of which were septic. No case of death resulted.

Dr. Henry H. Dodson reports two cases of forceps applied in pelvis, and three cases curetted after abortion. No death of mother or child.

SUMMARY:

1	Cæsarean Section.
7	Cases forceps at brim.
37	" " in pelvis,
12	" version,
7	" curetted after labor,
32	" " " abortion,
1	" embryotomy.
4	" post partum hæmorrhage,
6	" eclampsia,
2	" death of mother,
5	" " " infant.

To my mind, these figures indicate great care and skill exercised both in opera ing and in the after treatment. The cases of death of mothers should be eliminated from the list, as they were beyond control of the physician before he was called.

It is gratifying to note that there is less disposition than formerly to meddle with normal cases.

For quite a while it was thought that, even in normal cases, douches should be given as a routine treatment. It is now fairly conceded that, under ordinary environment, they are of doubtful benefit if not positively harmful.

The use of the sharp curette to precede the douche, in cases with slight rise of ternperature, finds but few advocates now; not many being willing to inflict such an extensive area of traumatism and lay open so many avenues to infection by cutting off terminal recesses which before, were blocked up by leucocytes.

If the uterus be properly cleaned out at the time of secundine expulsion, which nature will effect in most cases, there will be little use for any curette during the continuance of the puerperal state. If, however, shreds of membrane, broken-down placenta etc., have been retained, there is no objection to the dull instrument, using it as a manipulative adjunct rather than as a surgical instrument. The sharp instrument here is capable of doing no good beyond what may be readily accomplished by its dull prototype, while it is infinitely more potent for harm.

The hot saline or antiseptic douche should be applied to the interior of the uterus after any such curettement. My preference is for the saline. Instead of intra-uterine drainage my

preference is for tampons of absorbent wool saturated with a 5 per cent solution of boroglyceride, previously sterilized, of course. This favors rapid exosmosis, while the canal of the cervix is patent and will suffice for drainage. In the meantime the temperature, strength, and ability to appropriate nourishment, will give the index of the proper constitutional treatment.

Those of us who have practiced in the country have often been amused and perhaps, disgusted at some superstitions which, at first thought, seem to have their origin in an aversion to cleanliness and decency: such, for instance, as that the patient must not have a bath, and that the ashes must not be removed from the fireplace under the ninth day, etc. Still, it was probably the same superstition that caused those ignorant nurses to scorch and scrape all cloths that were to come in contact with the genitalia of the patient, burn the secundines, and give to the baby, for colic, a weak solution of creosote manufactured from the soot of the chimney by infusion.

Perhaps those poor nurses, unable to make microscopic or to analyze macroscopic observations, noticed that puerperal women did the best when interferred with the least, and that, with their environment, interference was apt to end in trouble, though they know not why it came—as from germ-life, or that it came from without; or, yet, that nature provided in the products of involution a material inhibitory of these agencies.

While the poor woman in child bed could keep a whole skin between herself and the army of microbes, though her bed might be full of them, so to speak, she was "clad in mail of proof," thanks to beneficient Providence who decreed the lochia an obstacle to the development of dangerous germs, as well as that the uterine ciliated epithelium should be a bar to their ascent.

The lesson we learn from this wonderful immunity is, unless in the face of strong reasons to the contrary, not to meddle with a puerperal woman, except to keep herself and her surroundings clean.

In this connection, I am lead to remark that there is much yet te be desired in the way of prophylaxis against the necessity for operative procedure, especially in cases of contracted pelvis. That is, to prevent the *contracted pelvis.* Dress reform, within certain limits, will do much to correct; but other factors

operate to produce the conditions besides ill-fitting dress. Insufficient and improper nourishment; constrained positions while at work or in school; scant exercise; want of light and fresh air —in a word, want of proper hygienic conditions—are the elements against which we have to do battle.

In contracted pelves, we have the origin of a ghastly train of evils which neither forceps, caesarean section, craniotomy nor symphysiotomy have served to forestall. At this door we may lay much of all that is implied in the general term of invalidism in woman. To particularize, we will say that much of lacerated cervix and perinæum, of loss of tone by over-distention, of pressure effects upon nerves, and of sepsis, are justly to be laid to the charge of their condition.

For the prevention and control of *post partum* hæmorrhage and combatting its effects, there seems little to be desired, either in remedies or in methods of application; more especially since the introduction of normal saline infusion. This can be introduced into the circulation by injection into a vein, into the cellular tissue, or into the rectum, giving all the advantages of transfusion of blood without its disadvantages.

The death of a noble victim of this condition, in the early part of the present century, pravoked this comment from the most gifted subject:

"Scion of Chiefs and Monarchs, where art thou?
Fond hope of many nations, art thou dead?
Could not the grave forget thee and lay low,
Some less majestic, less beloved head?
In the sad midnight, while thy heart still bled,
The mother of a monarch, o'er thy boy,
Death hushed that pang forever: with thee fled,
The present happines and promised joy,
Which fill'd the imperial isles so full it seem'd to cloy!
Peasants bring forth in safety—can it be,
O thou that wert so happy, so adored!
Those who weep not for kings shall weep for thee,
And freedoms' heart, grown heavy cease to hoard
Her many girefs for one; for she had pour'd,
Her orisons for thee, and o'er thy head
Beheld her Iris.—Thou, too, lonely lord,
And desolate Consort—vainly wert thou wed,
The husband of a year! the father of the dead!"

We rejoice that the lives of so many *uncrowned* years are now saved under like conditions; the causes that produce post partum hœmorrhage, and the means to control and correct its effects being better understood.

THREE INTERESTING CASES OF OBSTETRICS.

By E. F. Strickland, M. D., Bethania, N. C.

I DESIRE to express my appreciation and to return thanks to Dr. Stafford, Chairman of Section on Obstetrics, for his evident confidence and kindness in selecting me to write one of the papers to be presented under his section. I bespeak a rupture of that confidence ere this task is done but pray for a continuance of the friendship. The art of midwifery in general is, to the average practitioner, perhaps, the most interesting branch of our profession. The young doctor is filled with thoughts sublime and feels himself a hero when his first case of natural labor is concluded. The old practitioner recalls with pardonable pride the many obstacles he has met and overcome in contending with the emergencies of unnatural labor that threatened the life of either mother or child, or both, and the breaking up forever of the once tranquil and happy home. Childbirth should always be regarded as one of the most critical ordeals in human life, and we shudder as we think of the irresponsible, ignorant and untutored midwife as she stalks forth, filled with conceit and superstition, to meets condition that tax the energy and exhaust the resources of the most skilled in the art. But the Chairman has designated that my paper consist of a report of the following "Thiee interesting cases of obstetrics" that have been recently added to my experience.

1st. On September 3rd 1897, I was called to see Mrs. P. who was in labor and who shortly after my arrival was delivered of twins. One child was stout and well developed; the other was quite small, weak and immature and lived but a few hours. The mother gave the following history: Nine months ago she menstruated as usual; a month later she imagined herself pregnant, as menstruation did not appear and "morning sickness" commenced, as in former pregnancies; still a month later, i. e.,

seven months prior to confinement, menstruation reappeared but has not since returned.

She knew not from which date to calculate the period of her delivery. From the appearance of the twins, the presence of two placentæ and the history, I began to theorize as follows: might not an independent conception have resulted from ovulation at the time of menstruation when the woman was already two month's pregnant, and thus an example of superfœtation? This case is all the more interesting because of the menstruation, as the coincidence of menstruation and superfœtation in early pregnancy is very rare—only the fewest member being on record.

2nd. On December 15th, 1897, I was called a distance of six or eight miles to the country to see Mrs. S. who was having alarming uterine hemorrhage. On my arrival, from appearances and information, I judged the loss of blood to be at least one-half gallon. I elicited the following history: On September 3rd, 1897, unattended by medical assistance, she had a miscarriage relieving her of what was supposed to be a six months' child. All seemed to go well and there was not the slightest anticipation of trouble ahead until more than two months later. I put the patient under the influence of a general anaesthetic (chloroform) and with considerable difficulty dilated the uterus and removed a mass of very offensive decomposing placenta half the size of the hand. I curetted the whole of the interior of the uterus and gave antiseptic intra-uterine injections consisting of bichloride of murcury, 1 to 2,000. She was put on iron, quinine and strychnia together with a generous nutritious diet and confined to bed for ten days. There was not the slightest elevation of temperature and no more hemorrhage, but a rapid return to her characteristic excellent state of health.

The notable features of this case are: 1st, that the constitutional vigor of the patient was so great that the poisonous products of decomposition in utero were cast off without making the least septic impression; 2nd, that she should have gone so long, seventy odd days, without the least vaginal discharge, purulent or otherwise; 3rd, that when the crisis did come it was so grave and yet her recovery so rapid and complete. She is

an intelligent, honest aud obedient patient and I feel grateful to Providence for her almost miraculous escape.

3rd. On January 31st, 1898, I was summoned to see Mrs. W. who was reported six months pregnant and 'threatened with miscarriage." Patient stated that she had slipped and fallen from door step three days before which gave her body a considerable jar and badly sprained her ankle. She felt no inconvenience afterwards, except from affected ankle, until on the 31st when suddenly there was a large discharge of amniotic fluid and hence my presence requested. In the next six hours I delivered my patient of triplets, all girls and well developed, and I might add equally well developed for they were as nearly alike as three peas in a pod. They all died within twelve hours after birth. The mother's recovery was uneventful and as rapid and complete as in former single births. The frequency of multiple births varies remarkably in different races and countries, depending perhaps upon the general fecundity of the inhabitants. Taking the average of a large number of cases collected by different authors in various countries we find that triplet pregnancies occur about once in 7,679 labors. The causes of multiple pregnances are: 1st, the materuation and rupture of more than one Graffian follicle at or near the same time; 2nd, the casting off from a single Graffian follicle of more than one ovule; 3rd, the casting off from a single Graffian follicle of a single ovule containing more than one germ. It is credited by good authority that heredity plays an important part in multiple births. In the case cited, the father on hearing the mother give negative answers to my inquiry concerning multiple births in her family, promptly named several cases of twin births that had occurred in his own family which statement was verified by his mother. But here I stick the "safety-pin," and thank you all very much for your attention.

THE CHEMISTRY OF THE STOMACH.

By J. G. Blount, M. D., Washington, N. C.

IN this rapidly advancing age where the strain of business, exhaustion of pleasure, sensual excesses in eating or drinking, or in this country especially, by the manifold errors committed in the preparation and consumption of food and the utter disregard of all hygienic rules in their habits of living, we are daily called upon to treat a class of patients that are day by day becoming the more numerous. From bad to worse, from worse to utter despondency many of these patients go quietly on their way because in many instances from errors of omission and commission as well they are treated in a routine way, because of that lack of scientific exactness that marks the profession in many of its other branches, reminding us of the Epitaph "I was sick and desired to be better I sent for the doctor and here I am." The pharmacists having seen our dilemma have alas! fallen too easy a prey and today we are sold by the gallon essence of pepsin, Pan Peptic Elixir, Pancreopepsin and innumerable other preparations. Such great blindness do these same pharmacists attribute to us that they advertise and expect us to make use of all the ferments in one combination and yet does not our physiology go contrary to all such preparations and prove their incompatability? The stomach with its normal capacity of five pints and its secretions is to me of all the members the most remarkable. Tho' later day scientists of the Schlatter type may prove that without our stomach we may live and move and have our being, its importance was immortalized by Æsop in the fable of Menenius Agrippa, a former Roman consul and general, wherein the members entered into a league and covenant against the belly and held firmly to their position until the belly starved the rebel members into subjection. What was true in Menenius Agrippa's day is today the same, and daily do we

bear witness to some poor despised dyspeptic who once made the proud boast that his belly was of all his frame the strongest. Like the camel that bore his load uncomplainingly, in true camel fashion until the last straw was added, so the belly, if continually overtaxed will in time give way. Of no other member can it be more truly said "that he who transgresses nature's laws must pay the penalty." In health the foods, as divided by Gilman Thompson into six groups—water,—salts, proteids, starches, sugar, fats and oils enter that delicately arranged and devised laboratory of the stomach whereby that most complex of chemical processes, metabolism, they are made to serve their intended purpose as (1) nutrient, (2) heat producing, (3) force producing. In the lower animals that God given instinct prompts them to the proper selection of their foods both quantatively and qualitatively, and rarely do we see them, when left entirely to their own selection, transgress those laws as dictated by that native instinct. But man, poor man! civilization has done too much, it has made him depart from that native instinct, and from his repeated gross insults to his gastric physiology do we find one or another train of symptoms developing. The first departure from the normal condition to which I will call attention is hyperacidity. Hydrochloric acid is one of the normal constituents of the gastric juice and we had better consider its importance from a physiological stand point before we enter upon a consideration of it pathologically. Hydrochloric acid acts: First: as an antizymotic or antiseptic. Second: it has the power to covert prœnzymes of pepsin and zymogen into active ferments in a short time. Third: it aids in the regulation of peristalsis. Fourth: hydrochloric acid with the aid of pepsin transforms albuminous bodies into peptones. Fifth: by hydrochloric acid cane sugar is converted into invert sugar (dextrose and levulose). Sixth: it aids in bringing into solution the soluble calcium and magnesium salts introduced intothe blood.

We see, therefore, by the above how essential it is that we should have thorough knowledge of its detection and to understand the end we have in view in its administration. Bunge sums up the entire usage of hydrochloric acid and cites as its principle object that of sterilization. In order to be able to test for hydrochloric acid we must first procure a specimen. The method of procur-

ing the hydrochloric acid is after a test meal and the one most frequently employed is that of Ewald and Boas. This test meal includes one roll or a piece of wheat bread and eight ounces of water or tea without milk or sugar. The time for securing the specimen of gastric juice is one hour after this meal. Another very good method that is sometimes employed is at 8 a. m. to administer a small piece of meat scraped and broiled, a soft boiled egg, boiled rice, one glass of milk and a piece of bread, then at 12 m. the Ewald–Boas test meal. Now one hour after the administration of the last meal and five hours after the administration of the first meal draw off by means, of the lavage tube, the stomach contents. The advantage to be gained from this double test meal are that after withdrawing the stomach contents we are enabled often to recognize conditions of gastric motility and secretion before we analyze the contents thus giving us an insight into the condition in question, and confirmatory of what we will find subsequently by chemical analysis. For instance, should the entire breakfast meal have disappeared it would point to a normal digestion. If on the contrary we find an absence of all proteid beef and egg and presence of considerable carbohydrate rice and bread, we would in all probability have a condition of hyperacidity to deal with, while an absence of all the carbohydrates and presence of some of the beef and egg would point to hypochloridia or subacidity. The presence of the entire meal with milk uncurdled would mean impaired motility with absence of acids and gastric ferments. The best method of securing a specimen of gastric juice is after the introduction of the stomach tube to direct the patient to bear down as in an effort at defecation, tho' sometimes the accompanying nausea involuntarily accomplishes this. If a failure is still imminent push the tube further in or partially remove and if the abdominal walls are flabby external abdominal pressure will sometimes bring about the desired result. Sometimes a small particle of food obstructs the eye of the instrument, and if so, a little water poured in washes away the offending particle and again resorting to the above methods will be crowned by success. At times however, a little suction is required and this is most easily accomplished by means of Vanburen's bladder syringe. The bulb is compressed and all air removed and the end inserted into the savage tube. Nature abhorring a vacuum,

the bulb refills and gastric juice is thus extracted. Having secured the gastric juice we will proceed to its analysis. "Gunzberg's reagent, as modified by Boas, is a very delicate test and one easily applied. The solution has to be kept in a dark well stoppered, bottle and even then should be frequently renewed. I always buy the solution ready prepared from Eimer & Amend, New York. It consists of two grammes of phloroglucin and one gramme vanillin dissolved in 100 grammes of 80 per cent alcohol. A few drops of this solution is added to the same amount of filtered gastric contents. This is placed over a water bath and kept just below the boiling point until slowly evaporated. When the mixture is dried a fine rose tint will develop around the edges if hydrochloric acid is present in the proportion of 0.5 per thousand; excessive heat however is utterly destructive to the test, for heat in excess will cause an appearance of a brown or brownish red color which resembles the color produced when free hydrochloric acid is absent.

Another test and one almost as delicate and always to be found in every physician's armamentarium is that of resorcin. This solution consists of five (5) grammes of resublimed resorcin, three (3) grammes of common sugar dissolved in 100 C. C. of 94 per cent alcohol. Eight or ten drops of the filtered gastric juice and half the number of drops of the solution are carefully evaporated on a porcelaine plate over a water bath, avoiding excessive heat as formerly. Free hydrochloric acid in excess will be indicated by "a fine vermillion red line forming down the edge of the solution as evaporation proceeds, while the color at the periphery gradually fades, disappearing entirely after a short time, leaving a redish brown stain." Another confirmatory test for hydrochloric acid is found in testing for free acids. The presence of free acids is detected by Congo red. Congo red is made into an aqueous solution and into this solution bibulous paper is dipped and allowed to dry. This paper is then used as an indicator. Dip this paper into the filtrate of the stomach contents and in the presence of free hydrochloric acid or organic acids the paper turns a bright blue. Warm gently over an alcoholic flame and if the blue color is produced by organic acids the gentle heat will cause the blue color to disappear, while the blue color if produced by the hydrochloric acid will

upon gentle heat turn a lighter blue and does not disappear unless strongly heated. In contradistinction to hyperacidity we have hypochloridia or subacidity. In subacidity at the height of digestion hydrochloric acid and with it pepsin may be secreted but in smaller amounts than normal. Here however, it is entirely combined with the food as combined hydrochloric acid and not to be detected by any of the tests as given above. With unimpaired gastric motility, subacidity may be accompanied by few or no symptoms, but, permit motility to become bad or slightly insufficient and rapid decomposition of the stomach contents takes place because the amount of hydrochloric acid is not sufficient to inhibit or prevent the action of micro-organisms. As a result of this decomposition gastric discomfort and sometimes intestinal distention supervene. There are no pathognomonic signs of subacidity, but given by examination an absence of hydrochloric acid, presence of organic acids and upon removal of test meal we find that amalosis has proceeded more rapidly since the hydrochloric acid was not there to interrupt the continued action of the ptyalin, and on the other hand the digestion of meats, eggs, etc., unsatisfactory, then we would conclude we had a case of subacidity to deal with, provided carcinoma and chronic gastritis were excluded.

Pepsin, the proteolytic ferment of the gastric juice is active only in an acid medium and the ideal acid for this acidity is hydrochloric acid, though any of the other acids will suffice. Hydrochloric acid acts on the pepsinogen or propepsin, converting it into pepsin. We possess no chemical test for pepsin, it being of a qualitative nature, viz; its effect in acid solution upon proteid substances. These test tubes number, one, two and three, respectively, into each of which a thin slice of egg albumen has been previously added. Into No. 1, is put 3 C. C. of gastric juice. Into No. 2, is put 3 C. C. of gastric juice to which hydrochloric acid has been added, while in No. 3, acidulated as in No. 2, a few grains of pepsin is added. The tubes are now placed in a temperature of 104° F. for three hours. In the absence of a proper apparatus for the maintenance of the temperature at this point I wrap the tubes up in cotton and place them under the stove, taking care to avoid excessive heat. If at the end of three hours all three tubes show digestion by the rounding off and

solution of the egg albumen, the specimen contained pepsin, if Nos. 2 and 3 only show digestion, the contents show pepsinogen but no pepsin; while if No. 3 only shows traces of digestion, the specimen contained neither pepsin or pepsinogen. Lactic acid when found in the stomach contents has either been introduced in the food, as such, or is the product of abnormal fermentation. After the injection of food in carcinoma, lactic acid may be formed and to a slight extent also in subacidity. The presence of lactic acid in large amounts points strongly to carcinoma. In an examination for the presence of lactic acid we must be sure none has been introduced in the food. To overcome this difficulty Boas has devised a meal consisting of oatmeal, to which only a little salt has been added. The evening prior to the administration of the above meal wash out the stomach until no food particles can be found, and on the morning following administer Boas meal as directed above. Lactic acid found in the gastric filtrate one hour after the above meal would point strongly to carcinoma. Uffelman has devised the best chemical test for lactic acid. Ten (10) C. C. of a 4 per cent solution of carbolic acid are mixed with twenty (20) C. C. of water and a drop of strong solution of ferric chloride added. A beautiful amethyst blue color is produced which turns a canary yellow when treated with with gastric juice containing lactic acid.

For all practical purposes the sense of smell will suffice for the detection of butyric acid, being that of rancid butter. Acetic acid can likewise be detected by the nasal sense.

While the importance of being able to make the above analysis cannot be over-estimated, it is of equal importance to be able to examine the motor or peristaltic function. Schlatter has proven that a man may live without his stomach, and daily observation teaches us that the secretory and absorptive functiuns of the stomach are not essential, for internal digestion would suffice. Hydrochloric acid, pepsin and gastric absorption may all be wanting, and yet life be maintained, and even a fair degree of health. Let the motor function be impaired, however, and the food will remain in the stomach and accumulate. Even if a normal gastric juice were possible when the peristalsis is paralized, the food could be only partly digested, for pepsin like

the other ferments, has the property of changing an almost unlimited amount of proteids, *providing* the products of the action are *removed* when *formed*, and the temperature at a favorable point, as it appears to act by its presence not being itself destroyed or changed by the reaction. For the general practitioner Senbe's method affords an insight into the condition of gastric peristalsis, i. e. "to determine after a definite average of time of six to seven hours after a meal of 50 grammes bread, 200 grammes beef steak, and a glass of water, or two hours after a Ewald test breaksast, whether solid contents are still to be found in the stomach."

Another test for gastric motility and peristalsis is dependent upon the fact that salol is not altered in the stomach, but it is changed by the intestinal juices into salicylic acid and phenol. In normal digestion salicylic acid will be found in the urine in from 40 to 75 minutes after the ingestion, and a failure in its appearance within these limits would indicate an impaired gastric motility. Huber has improved this method by ascertaining that in health salicyluric acid should disappear from the urine in 24 hours, whereas, when gastric peristalsis is retarded the reaction continues distinct even as long as 48 hours. Salicyluric acid is recognized in the urine by the violet color produced on the addition of neutral ferric chloride solution. The value of the function of gastric absorption cannot be over-estimated. It is best detected by the ingestion of potassium iodide. This substance when taken in solution into the stomach should appear in the urine and saliva in 6½ to 15 minutes. Wet a piece of starch paper with the saliva of the patient every two minutes after the potassium iodide is taken, touching the spot with fuming nitric acid. Immediately upon the excretion of the iodide a blue color is apparent on the starch paper and should this color appear later than fifteen minutes, then the rate of absorption is reduced proportionately to the length of time of its appearance after the expiration of the fifteen minutes. Another method of testing power of absorption is by giving two decigrammes of powdered rhubarb which gives a red color in the urine with liquor potassæ in fifteen minutes. Whenever gastric motility is impaired, absorption lessened, and the secretions disturbed, from accumulation and distention we will in time have a condition known as a

gastric dilatation. This is best detected by filling the stomach with carbon dioxide, and by palpitation and percussion map out the distended organ. This is best accomplished by dissolving one teaspoonful of bicarbonate of soda, and one of tartaric acid in separate glasses, containing four ounces of water each. Direct patient to first drink solution of tartaric acid and then that of bicarbonate of soda. Quickly an evolution of carbon dioxide takes place and the outline of the stomach can be easily made out. The tests given above are sufficiently elaborate to enable a careful practitioner to analyze and diagnose his cases and the diagnosis once correctly made, the doctor is already half way on the road to successful treatment. In the treatment, however, it is to be borne in mind that "a logical and individualizing diet is a more potent factor than medicine."

A careful adherence to the principles herein laid down will change our practice from that of empiricism to almost scientific exactness, and our labors will reach a rich harvest, first of all in personal satisfaction, and second in a daily increasing clientele that not every one of our confrers will be able to take away. There is no field more fertile in clinical material, no field more generally neglected by the profession at large, and no field that if properly cared for will yield a richer harvest.

I am fully aware that I have advanced nothing new but if, in passing in review the method and chemical tests as devised and adopted by the profession, I shall arouse a full and lengthy discussion, from which I hope to profit, I shall feel more than amply repaid.

VERATRUM VIRIDE: WITH ESPECIAL REFERENCE TO ITS THERAPEUTIC USES IN SEROUS AND PARENCHYMATOUS INFLAMMATIONS.

By D. J. Hill, M.D., Lexington, N. C.

VERATRUM viride, or swamp hellebore, is a perennial herbal plant formerly thought to exist only in this country, being found in certain marshy sections of the Northern Atlantic States, and as far south as the Carolinas. But it is now known that veratrum album, which is practically identical with this plant, grows in abundance in certain European States. The several forms of the drug as accepted by the United States Pharmacopœia are made from the fresh rhizome and roots of the plant, which should be gathered in the winter. Historically there is but little to be said of this drug. It is known that some of the Medicine Men of the native Indian tribes were acquainted with its peculiar intoxicating qualities, and it is alleged that some tribes used it as an ordeal or test of strength and vigor. The attention of the medical profession was first called to its use as a cardiac depressant by the publication of a paper by Dr. Osgood in 1835, which was followed by the investigation of Dr. Norwood. It is not the purpose of this paper to enter into a detailed treatise on its two principal alkaloids, jervine and veratroidine, but rather to deal with the drug as a whole. Veratrum viride not only lessens the force and slows the time of the heart beat, but it also acts as a spinal depressant, and in this way differs from the other drugs belonging to this class. Its depressing effect upon the cord is probably due to the veratroidine. Professor Wood in summing up the physiological action of veratrum viride says: "It is a powerful spinal and arterial depressant, exerting little or no direct influence upon the cerebral centers. In full therapeutic doses it lowers the pulse-rate both by a direct action on the muscle (jervine) and by stimulating the inhibitory nerves (veratroidine); it diminishes the force of the

heart beat by a direct influence on the cardiac muscle (jervine), and produces a general vaso-motor paralysis (jervine) more or less complete according to the size of the dose."

As to the positive action of veratrum viride; the frequency and force of the pulse of inflammation and irritation can absolutely and certainly be controlled by its timely and judicious administration. And of all the positive heart sedatives it is unquestionably the safest. It is not probable that a single dose even of enormous size, administered by the mouth, would kill, from the fact that an over dose will usually produce prompt emesis. Recovery after the injestion of an ounce of the tincture has been reported, and recently Dr. Tuttle records a case in which four teaspoonfuls were taken instead of four drops in an hour with no worse results than severe vomiting, palor and prostration. It is true that the heroic administration of the drug may sometimes produce the appearance of dangerous collapse but if it does, this condition should occasion no alarm, as it is only transient—the patient promptly rallying even unaided. However, there is no objection to giving a small amount of alcoholic stimulant to assist reaction.

Professor Wood, summarizing again in a general way, says there are only two rational indications for the use of veratrum viride—namely, to *reduce spinal action* and to *reduce arterial action.* But if we employ the drug to reduce excessive heart-action in hypertrophy and in sthenic fever etc., we surely would not expect it to reduce the rapid pulse of exhaustion as found in the last stages of phthisis and other wasting diseases.

The late Professor Lynch, of Baltimore, considered veratrum viride almost a specific in sthenic craupous pneumonia; and I am sure we may at least modify the course of the most violent cases of this trouble by its timely and judicious employment. At the outset of this much dreaded disease it is of paramount importance to allay vascular excitement, as this necessarilly leads to a rapid depression of the vital forces. One predecessor resorted to venesection to accomplish this end, but the general experience of the profession led to the almost universal abandonment of this practice, as it was found that in this disease it involved absolute loss of vital power, and there is a positive distinction between *deprsssion* of the vital forces, and abso-

lute *loss* of power. I beg to insist that it should be employed in the early stages only—during the period of congestion, or hyperæmia. Giving it after hepatization comes on is contra-indicated, and worse than useless. In the stage of congestion, the patient should be brought fully under its influence as quickly as possible—for instance, giving from four to six drops of the tincture, waiting one hour, and giving in one drop doses every fifteen minutes—closely watching the effect until the pulse is reduced to 70 or 60 per minute, and then graduating the dose so as to keep up effect till hepatization sets in. Always carefully enjoining the recumbent posture. This plan faithfully prosecuted is far from chance of accident of over dose or accumulative effect and can give only the best results. You have thus attained all the good that could possibly result from the use of the lancet and still have a resivoir of much needed blood safely stowed away in the large venous trunks of the body to draw upon later on in the progress of the disease. In other words, you have temporarily lowered the vitality without in anywise destroying the vital forces. While not claiming for veratrum viride a positively specific action in pneumonitis; still, if the above plan of administration is carefully prosecuted, we will find the progress of the disease favorably modified, and resolution coming on more promptly. It is equally efficacious in pleuritis. Giving it so as to diminish the force and rate of the heart beat as above, with an opiate to relieve pain, and proper counter irritation, if deemed advisable, we will rarely if ever have an effusion. In the early stages of acute amygdalitis its prompt administration with morphine if there be much pain will often determine and hasten resolution. It may be given with good effect in hepatitis and in acute inflammation of the other viscera. In the hands of many practitioners, one bar to the employment of veratrum viride in certain other troubles where such a heart sedative is indicated has been its tendency sometimes to cause vomiting. This however may usually be successfully overcome by carefully regulating the dose and giving with tincture of ginger. Dr. Barker relied on veratrum viride to reduce vascular excitement in puerperal phlebitis and puerperal peritonitis, given with tr. ginger as stated above. The pulse of puerperal peritonitis may readily and easily be controlled without producing vomiting. Dr.

Walker reports a case of persistent priapism finally relieved by veratrum viride after having resisted a large number of other drugs; and I have obtained excellent results by giving large doses in acute mania. But of all the good things to be said of this drug, its greatest field of usefulness is undoubtedly in acute serous and parenchymatous inflammations, and we obtain the most marked and favorable results under this head from its administration in pneumonia and pleurisy.

It has long been a custom with many obstetricians to give veratrum viride, and often in large doses, to control puerperal eclampsia. I simply mention this fact in closing to condemn the practice. It is unscientific and should never be given in such cases.

THE COUNTRY SURGEON AND HIS WORK.

By James M. Parrott, M.D., Kinston, N. C.

THERE is certainly no branch of our noble profession more worthy of the careful study which has been given it than surgery. Like every distinctive subject it has its own special and peculiar field of work, and the surgeon, characteristics of his own. Hence in order that one may approach even closely to perfection in surgery one must, of necessity, be peculiarly adapted to, and especially trained for, his work. Like the poet the surgeon is born, but unlike the farmer he must also be made. One may possess the natural endowments requisite for success in this particular line of our work, yet one would of necessity fail without the required training. Special preparation is as essential to success in this branch of our noble profession as it is in the disease peculiar to the eye, the ear or any other organ. While all of us cannot be experts in surgery, because of the lack of skill or the proper training, yet I do believe that the general practitioner can and should be more of a surgeon than the average one is. No man can be perfect in any one medical subject, and hence we should not expect to be perfect in all; why then should we make ourselves believe that we are not competent to do surgical work because of our short-comings and refer our patients to our city friends when they themselves are imperfect? Let us then study the subject closely, equip our offices with the instruments usually required in ordinary surgical work, and then do the work, thus saving our patients the annoyance and expense of travelling to, and remaining in a distant hospital, and at the same time save to ourselves the remuneration and reputation which our city brother would thus derive.

I would not for one moment advise a tyro to endanger the life of a patient by performing unassisted a most difficult operation, but I do advise him to properly equip himself so that he

can do the common surgery which he as a general practictioner may be called upon to do. But says one, "how can I, with limited means, equip myself with instruments and acquire the skill necessary to the successful prosecution of surgical work, and after I am prepared what results can I expect to obtain?" The answer to this question which has often been propounded to me embodies the essential features of this paper, presented as it is in my own feeble manner with the hope that it prove of value to some one attempting or just beginning to walk in surgical ways.

It is needless to speak of the advantage of hospital experience to one intending to be a surgeon. Its value connot be overestimated, but since it cannot be enjoyed by every one some substitute must be offered. To one without such opportunities I would say go to the dead-house and there learn the technique of every operation. Such instruction can be now easily and quickly obtained in any of our large cities. After thus becoming familiar with the instruments and operations one is then prepared to begin surgical work. At first one should only undertake the most simple operations and then as ones experience grows the treatment of the more difficult cases may be undertaken, thus gradually reaching the goal to which one aspires without ever being a tyro in the true sense of the word. The time-honored custom of studying with an old doctor as a preceptor gave valuable assistance in obtaining experience which cannot be over-estimated. Just here let me say that I regret most thoroughly the later-day tendency to depart from this old medical usage, and I hope to see the day dawn very early when medical men like the druggist will be required to have some practical experience before they are allowed to graduate After the young surgeon has thus been gradually educated, and has by these means gained confidence in himself, and has learned the modus operandi of his instruments, he is prepared to branch out into a strictly surgical field.

To the surgeon perhaps even more than to the physician the question of nursing is most important. With the country practitioner it is often most perplexing and exceedingly annoying. In almost every community there is some one who has a peculiar knack along this line and after careful instruction by the surgeon concerning the particular case to be nursed, he can by the close attention of the operator render with wonderful skill the

necessary assistance. In my own country surgical practice I often send quite a distance for a person who has nursed for me several cases of the variety of disease I am about to treat. In this way I find my work about as effective as that obtained by the assistance of the trained nurse. However, professional nurses are now numerous, they can be easily secured and should be for a serious case when practical.

The question of assistance at the time of operation is important. Of course in the country this is necessarily crude, but after a short experience one soon learns to meet single handed almost all emergencies. The routine work of the assistant can be easily done by a colleague or by some one accustomed or adapted to such work. It is wonderful how nicely a non-medical man can assist in a surgical operation if he be cool-headed and possesses a stout heart. I have for a long time and in many cases depended upon them almost, and frequently entirely for assistance, and in no case have I ever been annoyed by their ignorance or hampered by their lack of experience. This may be due, however, partly to the fact that I have gradually grown accustomed to their unskillfullness. The inexperienced assistant like the raw soldier does not know and consequently cannot comprehend the dangers of certain emergencies which may arise and so is not as easily rattled as the more experienced.

Every operator and particularly the country surgeon should always be on the lookout for any emergencies which may arise. Tact, skill and an intimate knowledge of the physiology and anotomy of man and the therapeutic use of drugs are of course absolutely essential to the successful avoidance of many reverses while a thorough acquaintance with the various uses to which the different instruments may be put will supply the knowledge needed in meeting the remaining emergencies. We should be so accustomed to our instruments that one may be very readily used if necessary for half a dozen purposes. For example if the needle holder be absent the artery forceps can be used in its stead and when the dilator is not at hand the instrumental hemastatic may again be called into service. The grooved director, the chief use of which in my opinion is to aid the ignorant surgeon, may be used as a probe, while the probe can be used as an aneurism needle or a retractor. This diversified use of in-

struments not only obviates the necessity for so much apparatus but also aids in meeting the emergency of a broken or absent instrument.

Just before each operation the instruments and dressings should be carefully sterilized. My own preference is the small Arnold's sterilizer. This can be easily heated on the common coal stove and may be convieniently carried in the buggy. The instruments should be carefully cleansed in carbolized water after each operation. They should be carefully dried before being replaced in the instrument case. When an operation is to be performed in the country or out of the office a medium size grip or brief-bag, lined each time with a freshly sterilized towel is a very convenient case in which to carry the dressings and instruments.

The question of asepsis and antisepsis is really about the most important one likely to confront a country surgeon. Permit me to suggest that if the instruments are cleansed and kept clean as above described the problem of preventing sepsis is much simplified. In town and country surgery we are not annoyed by an impure atmosphere. This is most fortunate. Atmospheric impurities such as are found in our cities and hospitals are no doubt the cause of infection in 95 per cent. of the cases of septic surgery. Recently while in London I exposed a medium for 7 seconds in a ward in a large hospital and in due time saw grow several very large colonies of infective organisms, later I exposed the medium in my office 30 minutes and failed after culture to find any pus cocci. This to my mind explains the cause of the very remarkably low mortality in country surgery.

As to antiseptics I consider carbolic acid the best for all-round work, though for certain purposes, especially for cleansing the hands of the surgeon and the field of operation the bichloride of mercury is perhaps better. The hands of the surgeon should be thoroughly scrubbed with green soap and then carefully and slowly bathed in a 1-1000 solution bichloride of mercury, this being preceeded by an application of alcohol or turpentine and followed by careful rinsing with strongly carbolised water. The patient is treated in a similar manner, the whole process being gone through with very slowly and carefully.

Because of the absence of the septic germs in the atmosphere and on the instruments, this method is always sufficient. During the operation of course perfect cleanliness should be observed and the wound carefully protected. Lacerating and picking in pieces a wound by an unskillful or ignorant operator, or the too free use of over strong antiseptics during or after an operation is more often the cause of the commencement of suppuration than direct or immediate infection. In my own work during the past three years I have not had a single case of pus formation following an operation and only one case of infection in accidental wounds. The value of the free use of boiled or sterilized water during an operation cannot be over estimated. I prefer the boiled water which has been carefully covered and allowed to cool to water which has been sterilized. The pans or bowls furnished by the family should be carefully washed with carbolized water before being used. The towels supplied by the patient should be boiled or if this is not convenient washed in a carbolic acid solution. In laparotomies Thiersch's solution is a very valuable antiseptic and is to be prefered to all others.

The subject of dressings is very important. My own experience teaches me to rely on cheese cloth cut into the proper size. From sterilized cheese cloth we can easily make bichloride, iodoform or carbolic acid gauze by soaking it in the solution of the antiseptic we desire to use, and permiting it then to slowly dry. All our dressings should be carefully kept in screw-top jars, especially the medicated gauzes. Iodoform gauze can be easily made from iodoform emulsion, but it is preferable to purchase this from some reliable manufacturer. I never depend upon or use previously medicated gauze except in emergency work. Just here let me say that in my opinion iodoform is not so good a germicide as it is a disinfectant, even boracic acid in many instances being better as an antiseptic. Musquito bar cut and rolled in the proper manner forms not only the cheapest but the best bandage material. If it is dampened before being applied its efficacy is greatly increased. Bleached domestic is another valuable bandage material and can often be used to a great advantage. All of us can certainly afford a home made bandage roller and armed with this our wives and sisters in a few hours can make enough bandages to supply our wants in a

great many cases. By them our cheese cloth dressings can also be made.

The emergency bag deserves our most careful attention. It is second to the instrument case the valuable aid to the country surgeon. The most convenient case of this character is a 16 inch obstetrical bag containing the following, viz: Absorbent cotton, bandages and gauze (may be medicated), a bottle of carbolic acid, 4 ounces of chloroform, 2 ounces of alcohol, hypodermic tablets of morphia and strychnia, the instruments usually found in an ordinary pocket case, one large scalpel, dressing forceps, two pair Pean artery forceps, half dozen spear pointed needles, one skein of medium size braided silk, one tank of cat gut, one Esmarch's constrictor, one Esmarch's inhaler, one small saw, adhesive plaster, collodion and cocaine. With this outfit always ready one is constantly prepared to meet promptly almost any emergency which may arise. I was once enabled to go to a distance from my office, and with the assistance of Dr. John A. Pollock, to perform a double leg amputation within two hours after the injury calling for the operation had been received. No one pretending to do surgical work in small towns and villages can afford to be without such an outfit as before described.

The results of surgical work done in North Carolina are certainly surprising, especially to one who has not taken the trouble to look up the statistics on the subject. Save from the rarest and most difficult operations (and at the hands of some even from these) the mortality is less in North Carolina, where most of us are denominated Country Surgeons than in the cities at the large and handsomely furnished hospitals. Let us all remember that McDowell and Sims and a host of our shining lights achieved their best results and acquired their begining greatness as country surgeons. There are all over our beloved State, I am pround to say, a great many medical men who are quietly and unassumingly, but fearlessly marching successfully along in the most difficult surgical paths relieving the distressed with a success which, if it were known, would strike wonder to the minds of the out side world and really even to themselves. In no state in the union, in no country in the world can there be found such men as these North Carolina surgeons are. Like Capt. Perry they can very truthfully exclaim. "We have met the enemy and they are ours!" Let us help them, therefore,

and encourage them in every possible manner. Remember the test is not always in the distance. In this as in all things else, let us as far as practical patronize "home industry," and thus by helping them help and honor ourselves, always keeping in view that grand sentiment that the true surgeon is not necessarily of the city nor the guilded mansion, but he alone is worthy of our consideration who works for the relief of suffering humanity and carves, if need be, through the greatest difficulties to success.

SOME OBSERVATIONS ON THE RADICAL CURE OF INGUINAL HERNIA WITH REPORT OF AN UNUSUAL CASE.

By J. P. Munroe, M. D., Davidson, N. C.

ALTHOUGH herina is not usually regarded a serious deformity, yet impairment of usefulness does not occur so often from any other anatomical defect as from this one. No condition of life, of rank, of age or of sex is exempt from this affliction, and when the viscera protrude through the abdominal walls that enclose them, the condition at once becomes one of great surgical importance, often fraught with gravest danger and sometimes with serious results.

No disease, perhaps, requires a more accurate anatomical knowledge for its successful treatment and it is one that always requires skill and often promptness on the part of the surgeon. The frequency of hernia is much greater than is generally supposed.

From the U. S. census reports in 1880, it was found that out of 756,893 deaths, 1 in 600 was from hernia. In Philadelphia alone 450,000 trusses are manufactured annually. It is estimated that between $\frac{1}{8}$ and $\frac{1}{16}$ of the human race are afflicted with hernia. In tables of Dr. Baxter, Surgeon General U. S. A., we find of 334,321 recruits examined for the army 16,901 were rejected for hernia, this being $\frac{1}{3}$ of total rejections for all causes. Of these, inguinal herina was about 827 of all kinds, and right inguinal exceeded all the rest combined.

The anatomical features require no detailed description here, but will be indicated briefly in the steroptican illustrations to be shown.

The usual treatment, from time immemorial has been to adjust a properly fitting truss. There are a number of cases, however, much larger than is generally supposed, that should be operated upon. The operation is not in itself a serious one, and if done with proper care usually gives good results.

It is not my purpose to burden you with a detailed description of any one of the many operations for the radical cure, but to mention one or two points of importance in connection with the favorite methods and to report an interesting case operated upon.

The first point in the present day operation is to establish a new inguinal canal. In Bassini's operation this is done by making a new posterior wall for the canal by bringing the edge of the rectus, the internal oblique and the transversalis down to Poupart's ligament and attaching them there by strong ligatures.

The anterior wall is formed by stitching the cut edge of the external oblique to Poupart's ligament. Halsteads modification of this consists in including the external oblique in the stitches that form the posterior wall, and the new canal with the cord will then lie immediately under the skin and superficial fascia.

The other point of importance is to restore the obliquity of the *canal.*

This point is especially emphasized by Marcy to whom I am indebted for many valuable suggestions. The internal ring being about an inch and a half above and to the outer side of the external opening, the abdominal parietes act something like a valve in keeping the canal closed. This will be made clear by some models which I will show.

The best method of restoring the obliquity of the canal, whether it is located according to Bassini or Halsteah is to stitch from below upward until the internal ring is pushed as it were, to the uppermost limit of the incision. The continuous buried suture may be used or the interrupted, which I think gives equally good results.

These points I will illustrate and also show a case of which I find but one paralled in my reading.

J. W. F. consulted me in January 1897, and gave the following history. "About six years ago, while working in a shop in Louisville, Ky., I was reaching up and lifting a heavy weight when suddenly I felt something give way in my side. Almost immediately afterward I had to take my bed and an immense, tender swelling developed in the lower part of my right side. My physician advised me to go to my home in Cincinnatti. I did so and went with the expectation of being carried to the cemetery at an early day.

"An examination by physicians in the latter city led to the conclusion that pus was present, so an incision was made into the swelling and three pints of pus were discharged. Relief was almost immediate and I made a rapid recovery. Two years ago a tumor developed at the same place. My physician in Florida opened it and took out some offensive material which he thought was the cause of the return of the abscess. Since that time I have had a severe attack, but there is a constant enlargement at the site of this cicatrix and it frequently becomes considerably larger and very tender."

With this history I found upon examination an inguinal hernia on both sides easily reduced, but on the right side at the point of the previous incisions a swelling remained that could not be entirely reduced. I was not certain whether this was a cicatricial thickening of tissue or an imperfectly reduced herina. I advised an opeartion, but as it was not convenient for him to have it done at that time, I endeavored to fit him with a truss. After careful measurement a first class one was made to order, but it failed to give relief, and indeed was so painful to wear that he discarded it altogether after a faithful trial.

In August 1897, he cousented to an operation, and with the assistance of Drs. Mengies, Johnson and Abernathy, of Hickory, I operated.

On opening the inguinal canal I found in addition to a small hernial sac the cœcum and appendix lying on the cord and closely adherent to it. The appendix extended down beside the cord and it took careful dissection to separate the two.

After removing the appendix and closing the opening in the appendix I broke up the adhesions of the cœcum, pushed it back into the abdominal cavity and proceeded as in an ordinary case of inguinal hernia.

The recovery from the operation was rapid and satisfactory. One interesting feature in connection with his convalescesce was that after we began to give him medicines to act on his bowels he passed immense quantities of hardened fæces and among these was a tooth pick, which he remembered having swallowed two month before. This indicated an impaction of feces, although there had been no previous symptoms especially indicating it.

On account of the weakened condition of the parts I have not been very hopeful of a permanent result, but a letter from him last week informs me he is still perfectly wrll. I will now illustrate the points which I have emphasized.

"A SHAWL PIN IN THE TRACHEA."

By K. P. Battle, M. D., Raleigh, N. C.

On March 11th, Miss S. H., 16 years of age, while holding in her mouth a sharp pointed steel shawl pin, said to be two inches in length, allowed it to slip down her throat. A bystander at once looking into her mouth caught sight of the pointed end of the object in the pharynx. Dr. G. A. Renn was called, but the pin had disappeared and he brought the patient to me. Examination with a throat mirror failed to reveal it, though it must be said that the trachea could be seen only for a short distance below the cords. There was no cough and the respiration was easy and unimpeded. There had been such an absence of strangling sensation that she thought she had swallowed it and we were disposed to agree with her. For some days the only symptoms were a very slight and infrequent cough, but after a pronounced spell of coughing and a show of blood stained sputum, Dr. Renn took the patient to Chapel Hill, in hope of locating the pin by the use of the Rœntgen rays. Prof. Gore and Dr. Whitehead were very kind in their attention to the case, but the University's present powerful apparatus had not been put in service, and the only information obtained by the old machine was that there was no foreign body above the level of the sternum. So quiet was the breathing at this time that the opinion was again expressed that the body had probably been swallowed.

Several days passed without accident until the patient coughed the pin into the throat, as she expressed it, where she could feel it for several minutes, till it dropped back to its old position. I did not learn of this until the termination of the case.

A week later and 22 days after the accident she had a violent paroxysm of coughing, and when brought to me was still in considerable distress. I found the pin lodged in the larynx, with the head below the cords, and the point fixed in the epiglottis

near its center. This cartilage, while not in the infantile position was less erect and over-hung the larynx to a greater extent than is commonly seen in the adult. After spraying with cocaine I grasped the only available part of the pin, the shank, with Seiler's flexible tube throat forceps and made downward pressure in the hoping of freeing the point, preparatory to an attempt to get it to pass the epiglottis; but I could not afford afterwards to loosen the firm grip of the forceps in an effort to get a more favorable hold, for fear of the pin slipping down the trachea again. A steady pull was now made, but the pin did not seem to budge. The next inspection showed that it had pierced the epiglottis. The point could be seen protruding from the middle of its upper surface. I then caught hold of the point and pulled it through as far as the head. It was now surely out of the larynx and the greatest danger was over. The patient was by no means yet relieved of its presence, but I could safely pause and discuss the next step with Dr. Renn who was with me. The pin was too long to be turned, its upper part was in plain view in the fauces when the tongue was depressed, and we decided to cut it in two and remove the point half first. We were not provided, however, with an instrument that would cut such a stout steel wire in such a position. A strong pointed-nosed wire cutter, acting on the scissor principle was borrowed from a jeweller, and proving too short, was lengthened temporarily by the insertion of the handles into two metal tubes of suitable size. With this instrument and an ordinary pair of forceps, the steel was easily snipped in two and the upper half taken out.

To extract the remaining half of the pin, I used the ideal instrument for the purpose, a Seiler tube forceps in which the nipper part consisted of two hemispherical steel cups. When the cups were passed behind the epiglottis and closed over the pin's head, slipping was an impossibility, and the shank, now short enough, was easily reversed and the whole removed without difficulty. The young lady certainly deserved the happiness of the relief, for she had endured the manipulations with rare fortitude. All irritation rapidly subsided and perfect health was soon restored.

When examined the pin proved to be one and three quarter inches in length, of steel, quite sharp, with a vulcanite head a

quarter of an inch in diameter. Owing to its originally high polish it had rusted very little.

This case presents an interesting study in the matter of the measure of success attained by the natural efforts of the organism to relieve itself. That the pin should have gotten into the throat at all was due, in part, to a failure of nature to afford the body protection, for though it is a dangerous practice to put such things into the mouth, it cannot be said, in view of the habit of babies in this respect, that it was unnatural. Yet if the involuntary reflex powers of the pharynx and larynx failed to stop its passage it may be urged in their behalf that they were not designed to deal with bodies of such a shape. Be this as it may the system made a remarkable effort to retrieve the mistake. The head of the pin evidently rested most of the time on the bifurcation of the trachea. Several fruitless attempts were made to eject the intruder but the point, directed upwards, would catch in the mucous membrane, as shown by the cough and the blood stained expectoration. Once a fair start was made and the larynx was reached, but failure again resulted and another effort must be made. Finally the object was again shot towards the outlet, the point, being doubtless guided by a portion of the blast of air escaping past the head, found the chink of the glottis, got beyond the cords, fastened itself in the over-hanging epiglottis, the nearest possible approach to complete victory was attained and extraction by the natural passages was made practicable.

The general statement may be made that when the body is contending against disease or the result of accident, and the issue is vital, the most important and frequently the most difficult question for the surgeon's decision is the selection of the time when trust in nature should be abandoned and active interference begun. The accumulated experience of the world as time goes on will help in the laying down of more and more definite rules for our guidance. In the present instance if we had sooner known with certainty, what the position of the object was, an awkward problem would have presented itself. The chance of a successful removal through a tracheal opening of a pin of this kind, situated head downward at the bottom of the trachea, seems so desperate that this case is reported to put on record how much is possible for unaided nature to accomplish.

DISCUSSION.

Dr. Galloway.—I know of one or two interesting cases somewhat on the same line. In the late meeting at Atlanta, I related the case of a child, or rather a small boy, who was brought to my office one night, who had a sandspur in his throat. I examined the throat carefully, Mr. President, and found a sandspur lodged at the bottom of the vocal cord. I used a 4 per cent. solution of cocaine, and endeavored to extract it. I had no difficulty in getting to it with an ordinary laryngeal forceps, but every time I got down to it, there was such retching I had to stop. The boy previously had vomited and had a good deal of trouble. I at last succeeded in getting hold of the sandspur, and just at that moment the boy vomited, and up came the sandspur.

Dr. Payne.—I am much interested in Dr. Battle's paper, because it opens up a question which has been considered settled, as to how long after a foreign body has gotten into the trachea, it is safe to do tracheotomy for removal. According to recognized authorities, when a foreign body is retained for a number of days, it is safer to await nature's efforts than it is to do tracheotomy, but I am convinced that this chapter will have to be re-written. I had a case recently which leads me to believe that even in the last stages after actual catarrh or pneumonia has resulted, good results will follow tracheotomy. The patient was referred to me by Dr. Whitehead from Rocky Mount. The child had a grain of corn in the trachea. There were active catarahal and pneumonic symptoms, the result, I thought, of the detention of this grain of corn in the trachea. It could be heard occasionally moving up and down. I looked up all the surgical authorities, and in spite of the fact that they all advised against the operation, I did tracheotomy, the grain was expelled, the child recovered. Dr. Senn, who happened to be in Norfolk at the time, thought the action I had taken was proper, and said that he was convinced that the whole teaching on the subject was wrong. Coming from such high authority as that, and owing to the fact that I did it, I would like to have the expression of the Society as to the propriety of operating in these cases.

Dr. Carr:—Reported a case in which he operated to remove a grain of corn the day after it got into the trachea. When the trachea was opened the corn was expelled. In another case he operated for a cocklebur which had been in the trachea over a month, and the patient died. He advisesd against operating unless there were bad symptoms.

Dr. Galloway:—Reported a second case which he saw in consultation. A two year old child had gotten a peanut in the trachea six days before. When he saw the child it did not seem to be in any distress, though the mother stated that it had been, though for the last day or two it seemed to be getting

along very nicely. He advised against an operation from the simple fact that he was decidedly of the opinion that the peanut was low down, possibly beyond the bifurcation, and also on the ground that the child was doing very well. If at any time it should get dangerous, then there would be sufficient opportunity to perform the operation. It went on very nicely for about three weeks, when after a coughing spell, it coughed up one half of the peanut.

Dr. Faison:—Reported a case in which a grain of corn was expelled from the trachea on the boy tripping and falling across a potato ridge.

Dr. Costener:—Exhibited a thimble which was removed from the trachea. It had lodged at the bifurcation of the trachea, and created a great deal of inflamation about the bronchi; also the child could not swallow, but had to be fed by a tube, and this was kept up for six weeks.

EXPERT MEDICAL WITNESSES: WHAT IS THE CAUSE OF THE SEEMING DISREPUTE IN WHICH THEIR TESTIMONY IS HELD IN CERTAIN RECENT CASES IN THE COURTS? OBSERVATIONS FROM THE STANDPOINT OF THE COUNTRY DOCTOR.

By J. Howell Way, M. D., Waynesville, N. C.

THE criticisms given by the daily press of the country on the expert testimony in the recent noted cases in the courts where medical gentlemen, prominent in the profession, occupying positions of great responsibility to the profession as teachers and as consultants, to the public in that from the position accorded them by the profession, they become men whose words weigh much with the laity, have evoked considerable attention from the writing part of the profession. Some of these articles, in common with all doctors who feel a lively interest in whatever pertains to the welfare of our honored guild, I have read with the greatest interest, feeling that out of the discussion would be evolved valuable suggestions.

For quite a number of years past the idea of an "Expert Commission," to be created by law, and to which all questions of a medical nature arising in the courts would be referred for examination and solution, has been periodically sprung on a suffering profession. Recently it is noted that the same suggestion has been going the rounds of the medical press, and is seemingly the more favored solution of a *questio vexate*. For a Republican form of government, it is more than probable that there are already too many men in "commission" to do this or that particular thing, which the people could do for themselves, in their own time and their own way, and perhaps equally well. Yet this idea of a commission advisory to the court, seems to be the favored solution—the main remedy offered on various hands

for the abatement of what is claimed as the source of great danger to the future character and influence of the profession. It is difficult to see, however, how the proposed scheme could, if it were practicable to carry it into effect, possibly prevent the troubles of which the doctors complain in regard to the operation of the present system. Take for illustration the Carlyle Harris case in New York a few years since, or the more recent Leutgert case in Chicago; in each case we have some of the most prominent medical gentlemen in their respective cities, going on the witness stand and flatly contradicting each other about scientific questions as to facts. Now if as generally understood, science knows no variation; that it consists of certain fixed laws, these gentlemen must have known what part of their testimony was scientific facts and what part was opinion, conjecture or possibility. Would medical men be more inclined to agree with one another before a commission than in the glare of the public's gaze in the open courts? Doubted. But it is assumed that the idea of a commission would involve the submission of medical points involved in medico-legal questions arising in the courts, to only men of special and profound knowledge. Just how this would make the matter better, except for the favored few who constituted the commission, cannot in the present light be shown. The very prominent experts are the ones who (and it is said in all kindness of these gentlemen for we all have the profoundest respect and admiration for those who succeed in making reputations for themselves in medicine) are constantly getting into the newaspapers with the odium of the court house "wranglings of the doctors" and resultant criticisms attached to them, and through them to the profession for which they are assumed to stand. It is my candid opinion that in the smaller cities of the country and the rural districts in general, where there are fewer or no "professors" of medicine, that the matter of expert testimony is developed in the courts with far less friction between the opposing sides and with a corresponding degree of credit to the doctors. This statement is made advisedly. In the past twelve years it has occasionly fallen to the lot of the writer to appear in the courts of his own and adjoining counties in the capacity of an expert medical witness, and he here records his court experiences as among the pleasures of his professional

life. But certain rules have always been scrupulously followed: In the first place the witness has never bargained for or received a fee from either side prior to his appearance in the courtroom. His cases have been carefully studied before-hand, and after conferring with the other medical men who were to appear in the case and adjusting any grave differences which might on first view have existed between them, he has gone on the witness stand and told in the plainest, simplest language possible, what he knew of the case, strictly avoiding as he would an upas tree all professional technicalities. When my opinion is asked as to a question which I know is unsettled in the minds of the profession, or in controversy, I invariably after a word of explanation, confess my ignorance. And right here, I believe lies the trouble with so many of the modern metropolitan medical experts—they know too much! Too vast an amount of professorial, professional, or personal dignity at stake for the expert to say candidly, "I don't know." And the clever attorneys fully appreciating this fact play on the doctor's weakness, and when the proper time arrives the expert's testimony and his foibles are shrewdly dissected before the jury. And the lawer only does what he ought to from the stand-point of his employer. I have no criticisms to make here of the attorneys. They can legitimately prey on any man who opens the way. My observation is, that as a rule, medical men are themselves responsible for the ridicule their evidence is occasionally subjected to in the court room.

On every hand the fact is appreciated that marked advances have been made along the lines of human activity in the past two or three decades; in none has there been a greater degree of activity displayed, or greater results accomplished than in the field of scientific medicine. Much real advance has been made, many valuable discoveries fraught with blessings to humanity have been brought to the light of our knowledge through the restless energies of thousands of indefatigable workers in the field of modern medicine. Far be it from the intention of the writer to cast one iota of obloquy upon the good work of our honored profession in detracting from the splendid record of progress in recent years; but, the practical fact remains, that every new idea has not as some of our brothers would have us believe, been an improvement on the old or an advancement to

the front. While the general tendency of our professional life in scientific work has been distinctly and emphatically, forward and upward to the eternal light which illumes all things, yet it is to be remembered, to borrow the figure of another, that in our evolution some of the branches of the tree of progress grow upward and to the light, some grow downward soon finding their terminal buds, some wither and die, and—yet it takes all to make the tree; so as honest men we must admit that while substantial advance is made every day, we are even now absolutely in the dark as regards the correct solution of countless problems in the mathematics of medicine.

A distinguished savant makes an experiment today which he hopes will lead to something; the next day the details of the experiment are heralded the earth over a most wonderful demonstration of established facts. The day following, the same scientist, or hundreds of co-workers in the fields of science, repeats the experiment and finds that a certain element of error, not calculated for in the original experiment, renders null and void the assumed conclusions of he first day. The general public are not informed of this however. Later they find out the facts and then their respect for scientific expounders and their science is proportionately lessened. Witness tuberculin: Call to mind the excited throngs, both of students and afflicted who flocked to Berlin during the few months following the announcement of Koch's discovery. To bring it nearer home, look at the history of vaginal injections during and after labor. Only a few years since it was gravely announced by those high in authority in the medical world, that no woman should be permitted to bring forth off-spring without her genitals being rubbed, scrubbed, scraped and injected with strong solutions of toxic drugs a certain number of times (the details of the process almost suggested Hahnemann's directions in his "organon" for preparing a "potency!"), then a "pad" of the far-famed spices of the Orient was to be placed at the vaginal entrance to frighten timorous microbes away. Such was the dictum that with "professional" sanction went out over the country; notwithstanding this, there were intellectual "giants in those days," who dared to reason for themselves and questioning said, is not this a violent perversion of nature's methods? And while the many of the pro-

fession were for the time swayed by the injection idea (largely because it was "new" and "the latest,") there was a very large portion of the profession who rejected it as illogical treatment. On my desk today lies an ably written article recently published, from the pen of an acknowledged authority on obstetrical science enveighing against the practice of using vaginal injections in labor and criticising the monthly nurse for her disposition to use the douche, whether so advised by the attending physician or not. Yet this article does not give a hint as to where the afore-mentioned nurse was indoctrinated with the supreme necessity of vaginal injections in labor. One of the first things we are taught as students of medicine from the chair of therapeutics is to, if possible, ascertain and then remove the cause.

Nothing in my professional work has interested me more than to trace, and when possible ascertain, the origin of the oft-times (but not always), absured or foolish ideas advanced by the laity as regards the nature of treatment of disease. I do not say the ignorant laity, for my observation has been that the chief difference between the ignorant and the intelligent laity is that the ignorant laity is just a generation or so behind the intelligent laity in—in what? In reflecting, with some modification perhaps, what was set forth at some time as gospel medical truth by the profession, or part of it. Hence the accomplished author above referred to would have done us all a kindness and performed a legitimate penance had he simply stated where the nurse imbibed her dreadful notions.

But this by the way: The idea of the writer is to direct attention to what he believes to be one of the, if not the chief, causes of the threatened disrepute into which it is gravely asserted expert testimony is in danger of falling, and incidentally to note that the general, every-day practitioner of medicine cannot afford to endorse such ideas as tend to produce the belief that relief is to be found in putting "in commission" certain gentlemen who will attend to the elucidation of medico-legal questions for the profession and for the courts. The severest wrangling over medical cases in the courts today is when gentlemen of the class from which it is proposed that the commission be created, appear in the courts on opposing sides.

To get at the cause if possible, of the trouble is our first duty;

then if possible, remove it. One of the dangers which an expert, and the more reputation he has to sustain the greater the danger, is likely to encounter, is that of knowing too much. If medical men were as ready to admit in the court room their real ignorance of many things as they are in the privacy of the consultation room, there would be far less wrangling of the experts, with the result that much more respect would be entertained for their evidence. Doctors are oft-times, rather than make a frank confession of ignorance, tempted to build up on one known fact in medicine, coupled with a half a dozen may bes or conjunctures, a theory which to be honest with themselves they may believe, but do not and cannot know. This theory is then elaborated and given to the court as an exposition of the teachings of medical science. Now this is all wrong, but we do not need to invoke the aid of legislation to set such things to right, but rather the exercise of common horse sense. It is a family affair so to speak, and should be settled by those most interested. In every case where medical witnesses are summoned, if these same medical experts will get together and calmly and critically review the evidence of each man, throwing out what is only conjecture or rests on insufficient scientific foundation, leaving to be given out what is generally accepted by the profession as known facts; then later when on the witness stand, with an eye more to trueness to professional honor than to being the plaintiff's or defendant's "expert," tell what he knows and resist the allurement of keen-witted counsel to extract information which he does not possess, that man will retire from the stand conscious of having maintained his self-respect. He will also merit and receive that of the court. A proper appreciation of this ought to make it possible to be put into operation by the masses of the profession who have regard for their professional honor. As to the professional experts it is hard to say what they would or will do. Apply the method herein suggested to the practice of medical jurisprudence in the courts and it is not likely that self-respecting medical men will, after carefully studying the case together, go into the court room and exhibit the spectacle presented in the recent Leutgert case where, given a small fragment of the upper extremity of a femur, one gentleman swore positively that in his opinion it was the femur of a human female; the

other with equal positivity asserted it to be the femur of a hog. On the day following the astute attorney produced in court bones known to have been derived from a chimpanzee which bones were identified by the experts as human. Imagine the humiliating position of these gentlemen; amusing to the spectators, and disgusting to every plain, common-sense doctor who followed the testimony. Both medical men should have testified that the bit of bone was the upper end of the thigh-bone of an animal which brought forth its young alive, i. e., a mammalian and mentioned some of the more common animals from which the bone might have come. They should have positively stated that with the very short fragment exhibited, it was impossible to say it was or was not a human bone. (After days of wrangling this is really what their con-joint testimony amountee to!) This course would have saved their credit and that of the profession in general which is always affected more or less by the actions of its members. It is true this would have been indefinate, but (as the sequel proved) it would have been the truth, and when told in a dignified professional way would have enabled the doctors to have retired from the stand with more honor than attached to the experts whose perhaps too ample *ego* led them to know too much. These gentlemen were acknowledged expert comparative anatomists. The blunder as to the chimpanzee bones, the positive divergence of opinion as to the source of the piece of the femur exhibited to them, presuming as we do that the experts told what they believed to be the truth, proves conclusively, that comparative anatomy is not yet a sufficiently exact science to enable one, from only a small part of a bone, (unless it should be a part possessing some very special or pronounced process or foramina, etc., rendering its character unmistakable), to positively identify it as coming from the body of a certain animal. Now to candidly admit this fact need bring no discredit to our profession or to the individual doctor so testifying. We are not expected to know everything in the court house, whatever may be the demands made on us in the sick-rom. A clear recognition of this fact on the part of the profession, coupled with a sincere regard for stating when on the witness-stand only what are known to be established facts, and a disposition not to allow the erudite attorneys to lead him

to become a partisan, will I think contribute very greatly to advance the esteem in which medical expert testimony is held by the courts and by the general public. These remarks, as elsewhere noted, are intended to apply more particularly to the general masses of the profession—the practical men who help nature save and prolong the lives of our fellow creatures.

As for the professional "experts," if they want the legislatures of the country to look after them with disciplinary eye, I really see no objection(?) to *their* being put "in commission," or elsewhere. Seriously, can not these gentlemen, so very clamorous for special legislation, read the "signs of the times" better than to not see that the very fact of their more or less valuable service being had by either side in any case, carries with it the death warrant of the call for professional experts in the courts of justice? The American people are a very practical type, and a few more exhibitions of medical experts, a *a la* Leutgert style, will make the masses feel that "these experts are all frauds"—exit the professional expert!!

But long after this *genus* shall have for remembrance only a "trace of mould" in the sociologic lawyers of the past, there will be more or less frequent calls for some plain, practical observations on medical questions coming before them, from the plain every-day, common-sense doctors who have opinions only about the things of which they know (and are not embarrassed at not knowing all things!), and not based on what might, could, would, should, or did not happen. Speed the day! But evolution, sociologic as material, is slow.

DISCUSSION.

Dr. Murphy:—I suppose I must say something after having had the paper read. I am very much gratified at the position the doctor took in his paper. There has been appointed in several States recently either by the Legislature or by the court, a commission to assist the court in all questions requiring expert testimony, whether physicians, mechanics, or whatever they might be. I have seen some severe critisisms on this course, and do not know how satisfactory it is but I do know that the suggestion the doctor makes, that the experts should hold a consultation, has been tried and worked admirably in one case. It was rather a celebrated case, I don't think now of the name of the defendant, but the man killed the cashier of a bank and escaped in broad open day time. The defence set up the plea

of insanity. There was a large array of witnesses on both sides, some of the most distinguished men in New England. The experts for the defence had the defendant first. They seemed to have posted him; he knew a great deal about the science of insanity. The defence objected to the State's experts examining the defendant without their presence, and finally they decided that they should examine him together. The man was a very shrewd, sharp, sprightly fellow, and they had some difficulty in coming to a conclusion. The whole circumstance of the man's heredity and professional history to his implication in the crime was brought out, and finally led them to agree that he was not fully responsible for the act, and I think perhaps he was imprisoned for life. This seems to me to be the solution of the whole trouble—that experts should meet and come to some conclusion among themselves. I was summoned on a case that way, and I went to my brother doctor and said that I didn't want any court house scene, and if he had a different opinion about the case, I wanted to know, and we finally agreed what we would testify, and had no trouble about it. I do not know what help we could get from the law-makers on this line of expert testimony.

EXCISION OF GALL BLADDER FOR IMPACTED GALL STONE.

By W. Sinclair Davidson, M.D., Triangle, N. C.

MRS. G., age 40 years. About the last of August, 1890, on pressure, she detected a small tumor in the right side and sent for her physician, Dr. D. McD. Yount, of Conover, N. C., who also detected it. I was asked to see her December, 1890. Shortly after detecting the tumor, the patient suffered with a burning sensation in the region of the stomach, and when out of recumbent position for a few minutes, intense nausea and vomiting ensued. As the tumor continued to increase in size, the patient lost all desire for nourishment, and when any was taken nausea and vomiting were immediately produced.

On February 5, 1891, I was called to see the patient again and found a very large tumor, the patient very much emaciated, and suffering great pain, together with incessant vomiting when not in a recumbent position. As the symptoms continued to grow worse, we decided to operate that evening at 1 o'clock. The abdomen having been well shaved and washed with a solution of bichloride of mercury, the patient was placed upon a table and thoroughly anesthetized with chloroform and an incision about seven or eight inches long was then made over the tumor, three inches to the right of the umbilicus. On exposing the tumor to view, I found it to be a distended gall bladder, filled with a fluid and gall stones, 63 in number. Eighteen ounces of the fluid was removed with an aspirator. On making an examination of the neck of the gall bladder, I found a large gall stone lodged, that could not be removed. After passing a cat gut ligature through the neck of the gall bladder above the gall-stone, it was then tied and the gall-bladder incised just below the ligature. It was then dissected from the liver, using very hot water to control the hemorrhage from the liver. After all hemorrhage was stopped the wound was closed with silk

sutures and dressed with bichloride gauze and absorbent cotton. The sutures were removed nine days after the operation. The wound had united by first intention. The patient's recovery was uninterrupted with the exception of an attack of peritonitis, which occurred a short time after the sutures were removed. It has now been more than seven years since the gall bladder was removed, and at this time the patient is enjoying good health.

SOME THOUGHTS ABOUT TYPHOID FEVER.

By R. H. McGinnis, M. D., Charlotte, N. C.

BEING an Embryo, so to speak, in the medical profession and my first appearance before your Honorable Body, it becomes me to say that my paper will, no doubt, be accepted with more or less hesitancy.

I will not attempt, in the time allotted me, to cover the whole literature embraced in the therapy of cold water, neither will I burden you with a rehearsal of all that has been written on hydrotherapy in the management of typhoid fever, but will endeavor to place before you some simple thoughts and suggestions with the report of two cases which came under my direct observation in the Maryland University Hospital during the past year. The first case showing some of the many pathological conditions produced by the fever germ, the other the advantages offered by hydrotherapy in the management of a much complicated case.

Since the introduction of the antitoxine treatment of diphtheria by Behring, of Germany, and its wide spread acceptance by the profession in recent years, with such remarkable results, reducing the mortality from this most fatal of the diseases of children from 50 to 60 per cent to less than 20 per cent, the minds of the pathologists and bactheriologists have, and most naturally, turned to the investigation and experimentation, following similar lines as did Behring, Koch, Pastenr and others, to elucidate a serum which would be antagonistic to those toxines liberated in the system by the growth and development of the typhoid bacillus.

At the present time little or nothing is being published by those making such investigations, and the general profession as well as bacteriologists are largely and anxiously expecting such a discovery and we can not but think that the dawn of the 20th century will disclose this great agent.

Several investigators have employed an anti-typhoid serum in the treatment of typhoid fever, and their report of something over 100 cases has appeared and not with such discouraging results, most notably among them being Fræknel, Mauchet, Rumpf, Kraus, Buswell and Pfeiffer.

The first four observers report nearly 100 cases and their conclusions were that the course of the fever was slightly influenced, pyrexia occurs in a shorter time, with a general improvement of the feelings of the patient and disappearance of delirium. The last two observers noted no specific action, reporting a smaller number of cases.

When such an anti typhoid serum has been isolated and its employment embraces a large part of the profession I can not believe that the mortality from this dreaded disease will be materially lower than by the use of cold water, when judiciously employed, which is less than 5 per cent in hospitals and in private practice very much less than this. Although hospitals as a general rule receive their patients in the 2nd and 3rd week of the disease, the mortality in the Maryland University Hospital for 1896 was only 2 per cent and for 1897 was only 3 per cent, about 100 cases being treated each year. During the fall and winter of 1896 and '97 fifty consecutive cases of typhoid fever were treated in the University Hospital and not a single death. All receiving the cold bath.

I would not lead you to think that I believe every case of typhoid fever required the cold bath. There are many cases, and especially if not treated before the 2nd and 3rd weeks, where the cold bath would be absulutely harmful, but these are the cases where the cold sponging and cold pack plays such an important role. On the other hand I have seen cases where the sponging would invariably produce collapse, with extreme cyanosis and feeble pulse and when put into a cold bath, beginning at 80° and gradually lowering it to 65° F., would almost immediately show signs of improvement. During the 2nd and 3rd weeks of disease the cold bath must be employed with the utmost care and diligence, every symptom carefully noted and if the patient's condition will not permit of this measure, the cold pack or sponging may be substituted, but if the bath be employed from the beginning there is little need for any sub-

stitute during the 3rd week, as I have noted during my residence at the hospital, having observed about 150 or 200 cases. When the bath is judiciously employed it greatly adds to the general comfort of the patient, not only by reducing his temperature but by accelerating the circulation, which is much below normal, arterial tension being extremely low, due to the hebetude and listlessness of the patient; stimulating reflexly through the skin and underlying tissues all the reflexes, especially those of respiration and of the heart, bringing about an equilibrium in the heat producing and heat radaiting centers, as is shown by the natural sleep the patient often falls into after the bath; lessening of delirium and producing a gentle perspiration. By contracting the arterioles of the surface of the body more blood circulates through the liver, that great barrier to autoinfection, stimulating it to greater activity, thereby eliminating from the blood much of the toxines of the typhoid germ. This action I believe to be an auto-serum action where the patient himself is made to produce a serum in his own tissues antagonistic to the infection.

It was found by Widal, Pfeiffer and others in their search of the action of the blood on various bacteria that blood from a typhoid fever patient would cause the immobility and clumping together of the active typhoid bacilli showing that the patient produced in his own tissues a substance antagonistic to the toxine produced by the germ.

This reaction met with merited favor, and in this country was clearly demonstrated, a diagnostic feature of the disease, by Johnstone before the American Congress of Physicians held in Buffalo, N. Y., in 1897 and later the same year at Philadelphia. He ordered blood sent him from patients suffering with various diseases and in every case of typhoid fever this agglutination reaction occurred.

A drop of blood is taken on a cover glass, under aseptic precautions, and diluted 10, 20 or 30 times, it is then turned over on a glass slide with a small excavation, into which the bacilli from a fresh culture about 36 hours old preferably, has been placed. By the use of the oil immersion lens, and better by artificial light, the germs are seen at first floating in the fluid and very active, then gradually become less and less active until finally they clump together in various size clumps and com-

pletely immobile. It generally requires from 1 to 2½ or 3 hours for a complete agglutination.

In many cases during the last few years where the diagnosis of typhoid had been confined to this reaction, post mortem examinations have shown various and extremely interesting lesions, some cases in which no evidence of the disease existed in the alimentory canal. While pure cultures from various other organs affected showed only the typhoid bacilli, no organ or tissue of the body is exempt from its invasion. Several cases of fatal meninigets, empyema, and pericarditis have been reported, and two cases where the bacilli were formed only in the gall bladder, and many cases of pneumonia, one occurring in the Maryland University Hospital this past winter which I will briefly call to your attention.

N. A. White, male, age 24, sailor, Greek by birth. Entered the hospital February 22nd 1898, in very emaciated feeble condition. Speaking modern Greek, no previous history could be obtained. Temperature 101⅗, pulse 96, repirations 24 at time of admission and cold clammy condition of body. Stimulating him freely I made an examination after two or three hours, finding a pneumonia of lower right lobe, tympanitic and very tender abdomen. His pulse and respiration gradually increased and he died 72 hours after admittance.

Post mortem examination revealed a perforation of small intestine at site of Peyer's patches about 18 inches above the cæcum, and a general suppurative peritonitis. Culture taken from peritoneal cavity and pneumonic lung revealed the typhoid bacillus. His pneumonia preceded the perforation of the intestine, showing that it was not produced by extension from the peritoneum. Such a case is beyond the aid of the physician, but in those cases where no intestinal leasions exist and the disease is limited to the other organs it is not very obvious that internal administration of drugs, save those for stimulation and nutrition, will not benefit the patient, but on the other hand be very detrimental, especially those that cause frequent movement of the bowels. The disease is evidently one of general infection and not one of intestinal origin alone.

The other case I wish to report is that of a married woman, aged 20, the mother of two living children, German by birth,

understanding very little English. Previous history negative, was taken with a severe chill on July 29th, no treatment until brought to hospital at 9 a. m. August 4th, 7 days after chill, with temperature of $105\frac{2}{5}$, pulse 132, respiration 52. Diagnosis of typhoid fever made and stimulants ordered, consisting of strychnia gr. $\frac{1}{30}$ every 4 hours, whiskey ℥ss every 2 hours. At 9 o'clock a. m., next day temperautre $104\frac{2}{5}$, pulse 144, respiration 49. Tub bath given and ordered continued when temperature reached $103\frac{2}{5}$ or over, temperature being taken every 3 hours. Widal reaction confirmed diagnosis. A copy of her chart I have appended will show that she received in all 34 baths covering a period of 8 days. For 5 days she received a bath every 3 hours with four exceptions, two at 6 a. m. and two on the night of the 6th day, when she was delivered of a 5 months child at midnight. Patient began to improve from very first bath and although delirious upon entrance it all disappeared after the 2nd bath. No tympanites after 2nd night. Constipation prevailed throughout the entire period of disease, mostly relieved by enemas. Milk diet and the strychnine and whiskey were all that were given internally. Temperature assumed its normal on the 11th day after admittance and remained within normal limits until discharged from hospital.

DISCUSSION.

Dr. Taylor:—I wish it were in my power to tell this Society something it does not already know about the surgery of typhoid fever. It is a comparatively new field, and you will probably hear a good deal more about it. In my limited experience I have had three cases which have been sufficiently impressive to teach me that there is a possibility of accomplishing good if the opportunity is taken at the right time. The first case that came under my observation was that of a young man who had had a mild attack of typhoid fever, and was practically convalescent. He probably then had no fever. I was sent for early one morning and was informed that that night he had had a chill, with violent pains in the abdomen. I recognized, not only from the increased temperature, but from the rapid pulse and the evidence of shock and the invasion of the peritoneal cavity that perforation had occurred. Prior to that time, this had been a mild case of typhoid fever, no hemorrhage and no evidence of ulceration. I telegraphed to his brother, who is a doctor, that this man had perforation, that the only hope of saving him was an immediate laparotomy, and asked his consent and his presence. He tele-

graphed back that if he had perforation, he was bound to die, and he didn't want to see him die. His friends opposed the operation and continued to oppose it for probably three days. At that time his distend d abdomen, depressed condition, with all the evidences of septic peritonitis. made me fear with his friends that the end was very near. Then they importuned for operative interference. I probably should not have consented, because to operate upon a case in the last stage, perhaps would deter some others from having an operation performed, but it might give him a better chance for life. And this one instance did deter a subsequent patient from being operated upon. I did operate, and opened the abdomen. In spite of the prolonged time, I found that about one half of the abdomen contained an enormous abscess with fecal matter and purulent secretions. The intestines had become massed and matted together, and in spite of the terrific invasion, nature had built its barrier around the invading foe and prevented a general peritonitis. The patient died. The next patient I saw lived next door to this young man. Curiously enough, she dreamed that she had perforation, and that the doctors wanted to operate upon her, several days before it occurred. She implored her husband not to let the doctors operate, and she afterwards developed symptoms of perforation. I told her husband that she had perforation, and I think told her. She did not want to have the operation performed, and her husband promised her she should not be operated upon, and he would not allow the operation. In 48 hours, as I expected, she developed septic peritonitis and died. The third case was allowed to go on from bad to worse for 3 or 4 days before operative interference was sought, and in that case I found suppurative septic peritonitis. There was a slight perforation in the ileum, not larger than a ten-cent piece. Two or three sutures if applied to the center of the perforation, or as soon as the diagnosis should have been made, would probably have saved the patient's life. This little experience of mine is worth very little unless simply as an introduction to the subject. Other surgeons have not been so unfortunate, and I think that as many as 20 per cent of these cases which have been operated upon have been successful. It is an open question, a question that is very open in my mind, as to whether or not it is possible for a patient to have perforation through the ileum, with constant discharge of fluid and fecal matter, and spontaneous recovery to occur. It is held that it is possible for a piece of the omentum to become plastically solid over the perforation and recovery to occur, but after the escape of fluid and fecal matter into the peritoneal cavity, we do not have plastic peritonitis; it is septic, and is really due to nature's making no effort to stop the perforations. Twenty per cent could be saved, and 20 per cent is the record of all who have been operated upon in all

stages. What would be the result if these had been operated upon prior to the advent of septic peritonitis—prior to the disturbances of secretions of the peritoneal cavity? It does not seem such a desperate expedient. The perforation nearly always occurs within 12 or 18 inches of the ileo-cœcal valve. This operation does not differ from any other abdominal operation requiring suture of the intestine, and if done prior to the advent of suppurative peritonitis, it is almost classed as simple laporotomy surgically.

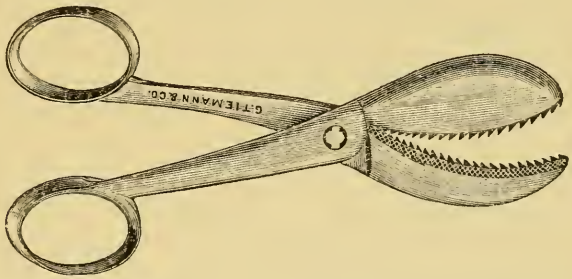
TREATMENT OF THE UMBILICAL CORD—WITHOUT LIGATURE.

H. S. Lott, M. D., Salem, N. C.

IT is with a degree of reluctance that I present this matter for your consideration, my reason being that it is comparatively new ground, and having just gotten the instrument completed, favorable opportunities have not offered to test its safety and usefulness. However, at the kind request of its chairman to offer something under this section, I determined to place the thought before you, and to ask you to help in deciding either for or against its utility.

I have long thought that it was unnecessary to tie the umbilical cord; and while the thought is comparatively new, it is not altogether untried ground upon which I am treading. M. B. Kellar (*Pacific Med. Jour.*—Jan. 1897) claims that "in over two thousand cases he has cut the cord about two and a half inches from the umbilicus, stripped it, to remove the Whartonian jelly, and left it to dessicate, without ligature or dressing, with good results in all cases, unless the parents were tuberculous or syphilitic." He then goes on to give reasons, some of which are really most excellent; among others, citing the fact that ligation is not required at the birth of any other animal, that it is not necessary from the formation of the cord, and the structure of its component vessels; that, being unnatural, it may be injurious, not only in interfering with cleanliness and dessication of the stump, but by maintaining the funicular vessels in a state of congestion and distention from unnaturally retained blood, may interfere with the establishment of the normal circulation in the child, and thus lay the foundation for numerous ills which may start from this cause. And finally, holds that cases are cited by the highest authorities in which the life of the child was saved by removing the ligature. To this I would add my observation that in all cases of reported

bleeding from the stump, none were correct, and in cases where I have arrived at the patient's house sometimes, maybe, hours after the birth of the child, and the "old lady" had tied and cut the cord, the string used, and the lax manner of its application, would have been very little safeguard against bleeding. Now, the thought that occurred to me, was this: a torn, or crushed artery never bleeds; it is this fact which in a great measure guarantees safety in the process of severing the cord in the lower animals; for instance, the cow crushes it between her teeth, and a device which will most closely imitate nature's process, will be the best and safest solution of the problem.



The scissors which I have devised, and which Tiemann & Co. have perfected in their make, are very simple, and are capable, I believe, of accomplishing two ends, viz—doing away with the need of applying a ligature, and also the danger of bleeding from patulous end of a smooth cut vessel. In size and appearance this instrument is much like the ordinary umbilical scissors, the *difference* being in the cutting edges of the blades, the lower of which is convex, the upper one concave, with serrated, or tooth like cutting edges. On the right side of eaeh blade, the side presenting to the umbilicus of the child, is an eighth inch flange, with its compressing surface roughened, that it may hold as well as compress the stump for one eighth inch beyond its mangled end; thus exercising firm hæmostatic pressure, in addition to the prompt agglutination of tissues secured by the oozing serum of the fringed extremity.

The manner of using the scissors that I would suggest is this: always wait until pulsation in the cord has ceased, then seize the cord near to the umbilicus of the child firmly between the thumb and forefinger of the right hand, and with the thumb and forefinger of the left hand strip the cord of its Whartonion

jelly, for two or three inches, stripping toward the placental attachment. When this is done, sever the cord with a firm compression of the scissors, about an inch and a half, or two inches from the umbilicus, and hold the divided and mutilated stump between the compressing flanges for one or two minutes; after which, dress in the usual manner with a dry, clean cloth, and firmly apply the abdominal bandage.

DISCUSSION.

Dr. Stafford:—I had a case last summer which will serve to illustrate Dr. Lott's statement. I was called hastily to see a negro woman, a cook, who was taken suddenly in labor. It seems that she had deceived her employers and made them believe that her time of confinement was very much more remote than actually proved to be the case. When I got there I found the floor a pool of blood, almost, and the woman lying down, flooding furiously, the placenta partially detached by the fall of the child—the woman had been delivered in the standing posture. I removed the placenta by the introduction of the hand. After I had done so, I noticed on the end of the cord a flap of skin about two inches across, and very ragged. Of course as soon as I could leave her I went to see the child. The denuded surface on the child was much larger than the flap on the cord would seem to indicate, and at first thought I was puzzled to know what to do with it. I made a purse-string suture and tied it up, and the child made a good recovery. I mention in this connection that there was no hemorrhage from the child at all.

Dr. Burroughs:—I hope that the Society, especially the younger members, will not attempt to follow this practice. The old way is good enough. I am opposed to the plan for the very simple fact that there is two and a half inches of the cord left. It is too much. Two and a half inches left there decomposing from three to five days, perhaps longer, say six or eight days, would create a stench that would render a room in an unsanitary condition and offensive to those around. It is an unsafe proceeding, and while in the majority of cases the cord may not bleed, yet there are instances in which there will be fatal hemorrhage, and I know we would feel safer to go home and lie down to sleep, knowing that we had ligatured the umbilicus, than to go away feeling that we only had it mashed or bruised.

Dr. Hays:—I would like to ask the doctor, in the first place, if in his practice he ties the cord; I should like to ask in the second place, if he advises his brother doctors to leave it untied; I should like to ask in the third place, if tying the cord properly ever

does any damage; I should like to ask in the fourth place, if he would not lose a patient occasionally from leaving the cord untied; and most important of all, I should like to know in the fifth place if he does lose a patient from leaving the cord untied, that might have been saved by it, what excuse has he to offer to the members of that family, what excuse has he to offer to his brethren of the profession, what excuse has he to offer to his own conscience?

Dr Hines:—Ever since 1851, when I began to practice medicine and obstetrics, I am glad to say that I never left a cord untied. I have never had the misfortune to have a child bleed to death, and I agree most heartily with the gentleman who has just spoken. I think it would be a sin for a man to let a child die from hemorrhage because the cord was left untied. For forty-four years, I have never known a child to suffer from a tied cord. I have had some to bleed pretty freely until the cord was tied, and I would suggest by all means tie the cord. It can do no harm, and may save an immense deal of pain and loss of life.

Dr. McMullan:—I find that there is one thing I need in my surgical operations before I go further, and that is a trained cow to come along and nip off my cords secundem artem. I thoroughly endorse what has been said in the discussion about leaving the cord untied. It will apply equally well to an artery in the body. I think after awhile we will quit tying arteries in our surgical practice if we quit tying the cord. I would like to state my method of dressing the cord. We are all perfectly familiar with the old mammy's way, get a little lard and grease it and tie it up in a rag. I have had some of my brethren tell me that they annointed it. What you want is that the cord should rapidly dessicate. We all know that a dessicated cord has very little disposition to decompose, and that is what we really want. There is no dressing necessary except to keep the cord off the child's skin. I take the binding and cut a small hole in it large enough to pass the cord through, having previously tied it, and that is all the dressing I do. I believe in fresh air, gentlemen, both in tuberculosis and in the dressing of the umbilical cord. I believe that is the best kind of antiseptic after all. I am cautious to tell the nurse not to apply the diaper so that it will rub the cord. The next day I find a little dessicated string. I did not do this at first myself, but got it from a professional brother who is a very fine practitioner. Since that time I always dress it that way. As to the calf, of course he doesn't need anything. He stands up, and there is no danger of his stepping on it. The baby lying on his back is different, and of course the cord will lie on its skin, and you know something ought to interpose. I consider that this is the scientific way of dressing the cord—by not dressing. I am like Dr. Lott, I am an iconoclast.

Dr. O'Hagan:—At the risk of prolonging this discussion, I rise to ask the permission of the Society to say a word or two. I regret exceedingly to hear such adverse criticism upon Dr. Lott's method of dressing the cord. I have never used the instrument which he presents for examination, but it is based upon physiological principles. Those of us who have seen military surgery know that an artery that is torn by some blunt projectile will not bleed. In addition to that the neatness and elegance of this principle presents itself to me in a very favorable light. I have never tried it; I never heard of it before, and I am indebted to the doctor for suggesting that method of treating the cord. My own method, I will not worry you by repeating. There is no special merit in it at all, only that I have never known a child to die from hemorrhage. I really think this method has a certain amount of merit in it. I regret to see that it does not meet with a favorable reception. My friend, Dr Burroughs, seems emphatically opposed, so is my friend Dr. Hays. I say, nevertheless, that that method of treating the cord presents itself in a very favorable light to me. I am quite sure that the method of crushing will be an effectual bar to future hemorrhage, but notwithstanding that, I can see no possible objection to a ligature properly applied, I always want to give everything due and fair consideration, and I must say that I regret to see that the contribution of Dr. Lott has met with such adverse criticism. I hope that by next year some of you will be disposed to try it and will be able to throw some light on the actual practice of obstetrics. And I hope that there will be no further adverse criticism of Dr. Lott.

Dr. Kent:—I just want a word in behalf of the old way and in behalf of Dr. McMullan's better way. Occasionally umbilical hernia does occur, and if I were to remove the compression just where it does occur, and should find secondary umbilical hernia, I would be afraid I was at fault to some extent for this having occurred, and I am willing to continue the old way.

Dr. McMullan:—The doctor is laboring under a misapprehension. As soon as the cord drops off, I fold a pad and apply over the regions and put a band on top of that and instruct them to keep it there for a month.

Dr. Burroughs:—Isn't there just as much danger from umbilical hernia before the cord is tied as there would be afterwards?

Dr. McMullan:—No, sir. I have done it fifteen years and have never seen occasion for it. I cut a hole just large enough for the cord to pass through. I am careful about that.

Dr. Lott:—Gentlemen, I put myself up for a riddling, and I got it. I am grateful to you for your criticism, both adverse and favorable. I brought it up for your discussion and for you to help me decide for its usefulness, and I meant what I said.

But in self-defence, I want to say that I take care of my patients. In the first place, in reply to Dr. Burroughs, I will say that it is not necessary to leave the cord as long as I said in my paper. I use the scissors, but not recklessly, I assure you. I do not intend to be criminal, I would not be. In order to insure safety, I did strip the cord and put a ligature about an inch and a half from the umbilicus, but did not tie it down at all. Then I severed the cord with the scissors, and there was no bleeding. Then after I was satisfied that there was no bleeding, I tied the ligature. That made it safe. After all, I left my partient with a clear conscience, notwithstanding the fact I did use the scissors and proved that the agglutination of the mashed extremities did occur and that there was no bleeding. I would not use them injudiciously.

REPORT OF CHAIRMAN OF SECTION ON MEDICAL JURISPRUDENCE AND STATE MEDICINE.

By J. Steven Brown, M. D., Salisbury, N. C.

As Chairmau of the Section on Medical Jurisprudence and State Medicine my paper is constitutionally limited to a report on general progress in these branches. However, I have learned of so little progress during the year that I shall take this opportunity for offering a few suggestions, in the hope that my successor will be able to report greater progress.

During the year the pestilence that once spread dismay and terror before it and death and destruction and heart-rending scenes in its path, the pestilence that baffled all skill and caused the bravest hearts to quail and tremble at its approach,—this pestilence has been about and within our borders. But the tyrant's power has departed. It has been robbed of its venomed sting. Despite the unholy protests of a few blinded laymen, our efficient health officers have vigorously supplied the people with the immortal Jenner's matchless life-preservers. With these virus-points and isolation, we no longer fear small-pox; for it can do us little harm.

Scarlet fever and diphtheria, too, have been held well in bounds by careful quarantine and antisepsis. The measles and the poor are always with us. Each demands much of our time, and we need to turn over new leaves and new laws in regard to each. Much more damage has been done by measles than by any of the foregoing more dreaded contagious diseases. Then, why not quarantine measles? It is not one of the necessaries of life. Hordes of its victims are permanently injured. It would not be a great deal harder to subdue than the smallpox, and the saving of human life and health would probably be even greater.

But the really knotty problem in sanitary legislation is in connection with the apparently more mildly contagious, yet

omnipresent and ghastly death dealing pestilence of tuberculosis. The merest novice cannot fail to realize that our health authorities should declare war on the invading hosts of tubercle bacilli; but the wisest sage has not yet been able to outline a perfectly feasible and certainly successful method of expulsive campaign. Let us hope that the earnest workers along this line may keep on gaining ground against the enemy till the reign of tuberculosis shall be overthrown.

With the Cuban situation before us, we need to enforce the yellow fever regulations with the utmost rigidity. As loathsome as our savage human enemy, its deadly blows are ten times more destructive and more to be feared than the missiles of the treacherous Don. Doubtless our sanitary officers will look well after this dangerous matter.

Fresh proof is constantly arising that the newborn babe needs protection from the ignorance of the septically blind midwife. Would it not be well to have all physicians report all cases of ophthalmia neonatorum that comes under their observation, especially all cases that have resulted fatally to one or both eyes? That would afford such an irresistible volume of conclusive evidence that the blindest legislator could not fail to see the crying need of a law to protect the helpless infant, not to mention protection against lacerating the health of the mother.

Much has recently been written about restriction in propagation of the feeble minded, epileptics, and criminals. It is a well-established fact that criminals beget criminals just as surely as idiots or epileptics beget their kind. How much of this criminality is due to heredity and how much to training, I am not prepared to say. But the fact remains that the almost invariable heritage we receive from criminals is the burden of caring for more criminals. While epilepsy is quite as hereditary as criminality or idiocy, its burden to society is not so great. Without referring to such noted historic characters as Napoleon we often see epilepsy and great genius combined in an individual. Still this genius is often of an erratic nature. And often the epileptic gradually degenerates into an idiot, and becomes a burden to society. What shall we do with all these? The better class of epileptics may be educated to forego marital relations. But criminals and idiots and other degenerates need more than education. There should be legal restriction. How?

That is the problem. Along this line we may add that many degenerates are supposed to owe their degeneracy to drunkenness, having been begotten by chronic inebriates or during a drunken debauchery. How can we eliminate this evil? Let us encourage all such noble associations as the Woman's Christian Temperance Union, and let us be more careful than ever to prescribe alcoholics only when they are unmistakably demanded—only when there is nothing else like strychnine or ammonia or some sedative that would do as well or better. If we would do this, I believe we would not prescribe one ounce of alcohol where we now prescribe ten, and we would wash our hands of hundreds of doctor-made drunkards and their degenerate descendants.

The iniquity of the patent medicine business is so patent that there is hardly need of comment; but there is great need of legislative action restricting the evil. Let every bottle of patent medicine bear a label naming all the ingredients and the amounts of each ingredient in each dose. Let the state chemist collect and analyze samples from time to time, and whenever there is material variation from the printed formula, let the medicine be prohibited from the state, and let the responsible party be fined in proportion to the magnitude of the offense. Otherwise, socalled harmless soothing syrups will still go unpunished for numberless atrocious infanticides, and Dr. Blankety Blank's liver and kidney cure will still parley with the army of the credulous till disease and death have taken a ruthless grip on the thousands of simple victims. Patent medicine of the baser sort personified, with all its greed and irresponsibility and frequent immorality is seen in the quack. Our state protects is sovereign subjects in some measure against these imposters. But, alas! their tempting license fees too often blind the officers of the law. They reap a harvest from the people and pay toll to the public treasury. But it is very hard to make the officers see that the frauds these imposters perpetrate and the robberies they commit on the public health and the people's pocketbooks ten times outweigh the paltry returns they get in the shape of a shameless license fee.

The prescribing druggist, too, with his infallible wisdom carefully culled from quacks and patent medicine advertise-

ments and doctor's prescriptions, needs to feel the strong hand of the law. How often he undertakes to treat a case till he gives his patient a running start toward the undertaker, and then blasphemes the physician for failing to head off the victim.

A matter of vital importance—our meat and bread—demands attention. Our proverbial charity has been used and abused by the public so long that many cease to credit us with it at all, and some even imagine that we are bound by law to visit and prescribe for all who call. It is unnecessary to remind you that the physician does a far greater gratis work than any other class of men. A part of this he does most willingly and cheerfully, this part being legitimate and praiseworthy charity. Too late he learns that another large part of his work has been gratis—in the form of enforced charity, which bears no true kinship to the genuine article. This charity is enforced on all classes of men, but much more on the doctor than on any other. Because of it, many a doctor in this State is unable to to collect more than 50 per cent. of his earnings. What enforces it? The fact that our laws provide for no way of collecting accounts from one who is not in his own name worth more than the homestead. This iniquitous law or lack of law is a good bait to draw all classes of frauds and scoundrels into our borders, and to educate our youths to rascality. Our sister states protect honest men from these cheating parasites. Their garnishment laws are not pertect, but they are much better than none. We physicians of Rowan have a law of our own, by which any member of our county medical association may place on our delinquent list, or black list as the laity call it, any one who refuses to pay his doctor's bills. Those so listed are not entitled to services from any member of the society until he makes satisfactory settlement with his creditor. This does much good; but still it is a very imperfect and unsatisfactory law. Physicians are liable to overlook names and unwittingly render service to those not entitled to it, thereby, perhaps, creating a flurry of ugly feeling between two physicians. But a greater objection than this is the laity refuse to comprehend the meaning of this law, and allow it to build a barrier of coldness between the patient and the practitioner. It tends to array class against class, and leaves a wrong impres-

sion that the most genuinely generous class of men on earth have become a class of oppressors. This impression is radically wrong and unjust; but, where the physician in self-defense has to take the law into his own hands, it is very hard to avoid. Not for our special benefit, but for the sake of justice to all, let our legislative committee urge the passage of a garnishment law to this effect: That the wages, salary, or income of all persons in North Carolina may be garnisheed for proven accounts; That two thirds of the wages, salary, or income shall be subject to garnishment only for provisions, board, lodging, houserent, fuel, lights, and clothing; That the remaining third shall be subject to garnishment for any other proven accounts except those before mentioned; That such garnishment be given precedence to all other assignments or conveyances of any kind that might convey the wages, salary, or income from one of these classes to the purposes of the other. Such a garnishment law could hardly work hardships to the poor; for scarcely any family, however poor, spend two thirds of their wages for the necessaries of life, as placed in the first class. It would turn many dollars out of the current of dishonesty and fraud and riotous living into the pockets of him who had earned them and needed them for the purpose of honest existence. In short, it would cultivate honesty and frown upon fraud.

One more matter which concerns every inhabitant—a day of disintegration and death is the coming lot of every human body. It has been the prevailing custom ever since the days of the patriarchs to bury the dead body. But custom often blinds us, or lets us look through glasses of prejudice, while we take the wrong road and do ourselves and our posterity incalculable harm. We are careful to disinfect the typhoid excreta that may be emptied on our watersheds. In fact, at this day and time, almost every foot of earth and water should be protected from such contamination; for there is hardly a foot but that might become a hothouse from which the multiplying germs might easily find their way back to the human system. While we are so particular about these dangerous excreta, what are we doing with our typhoid and tetanus corpses? Complacently burying them where every opportunity is afforded for the victorious germ to be fruitful and multiply and replenish the earth and go on conquering and causing untold misery to mankind.

How many other diseases than typhoid fever and lockjaw are propagated in the grave we do not know; but likely more than we are wont to recognize. Would it not do well to change a custom, even though it be as old as the world itself, for one less dangerous? for one that is in harmony with indisputable sanitary principles? If we would accustom ourselves to it, we would find the horrors of cremation much less revolting than the horrors of burial and decay in a gilded coffin full of slimy, writhing worms. Cremation is safe; burial is dangerous.

Let us sum up:

1. We are gradually gaining the mastery over some contagious diseases; but measles and consumption and some others are still in full blast.

2. The newborn babe needs protection.

3. Propagation of criminals and idiots and other degenerates should be restricted if possible.

4. Our laws concerning quacks and other irresponsible prescribers should be more strictly enforced, and the mask should be removed from cure-all medicines.

5. Our State should no longer encourage rascality, but should make it possible for all her citizens, the doctor included, to receive their honest dues from the dishonest as well as from the honest.

6. Cremation means purity—burial means pollution. Therefore sanitary science bids us exchange the old custom for the new.

DISCUSSION.

Dr. Long:—I have long since learned that our reporters in the various branches have got to adopt what was said by Talleyrand, I believe, that the world does not need so much reforming as it does reminding; so that all that he can do is to go over the work that has already been done by other folks and examine it carefully and arrange it into a comprehensive whole so as to make it instructive to us. That applies of course to work already done, and I thought perhaps I might spend a few minutes profitably here by bringing to your attention a subject that is not properly under the head of something that has been done, but something that is about to be done, that affects us as a profession, and that by catching up something that has already been announced by another and repeating it, we may perhaps receive impressions that will bring about some conerva-

tive action. While discussing the application of medical knowledge to the solution of questions connected with the administration of justice permit me briefly to call your attention to something which threatens to impede the progress of scientific medicine and surgery in this country. My attention was specially directed to this subject by a letter from Dr. Kelly, of Baltimore. I afterwards had some conversation with him when he told me he had sent out a large number of similar letters to various members of the profession in different sections of the country trying to enlist their coöperation, etc., and of course, I feel sure some of you have had the opportunity of acquainting yourselves with his views. I simply wish to emphasize what Dr. Kelly has well said, and in doing so, of course will try to follow his advanced line of thought and necessarily draw from what he has said. There is now a bill pending before Congress entitled "A Bill for the Further Prevention of Cruelty to Animals in the District of Columbia." The number is: Senate Bill 1063. Calendar No. 136. This Bill provides that a commission of non-professional persons are to have charge of the subject of animal experimentation, with authority to interrupt, demand explanations of work being done, to know just what is being done by the experiment and give the investigator endless trouble and annoyance, thereby making all experimentation practically impossible. It is a well known fact that in England Lord Lister had to go to the Continent of Europe to make some experiments. Opposition to such restrictive legislation has been urged by the Physiologist Michael Foster. It is believed that if this Bill is passed for the District of Columbia that it will be used as a precedent for similar legislation in the States of the Union. So far, no case of cruelty in the conduct of animal experimentation has been proven in the District of Columbia, and if any real cruelty were practiced, the laws already existing for the preventiou of cruelty to animals are ample and sufficient. This Humane Society which champions this Bill is trenching upon the jurisdiction of the Society for the Prevention of Cruelty to Animals, providing for class legislation and a system of espionage upon physicians as a class. It has been said that some of these anti-vivisectionists have gone so far as to state that they would put a stop to the hypodermic puncture of an animal. We can readily see to where this would lead; some of the most active agencies in all the fundamental progressive work of our profession would be paralyzed—all Physiological work—the great study of the science of all life would stop. Bacteriological experiments with animals could not be made. No tests as to the relative value of certain materials, improved methods in abdominal surgery could not be devised and tried beforehand. No more diphtheria serum could be manufactured in this country. We could not obtain any

more vaccine virus from animals, and we could not consistently import any of the animal serums for use here. I do not know how our United States Senators and Representatives stand on this question, but I trust that these thoughts, which are largely taken from Dr. Kelly's letter, may have the effect of enlisting your earnest opposition and zealous exertions to defeat this piece of pernicious legislation against our profession and biologists as a class.

Dr. Burroughs:—I would like to confirm every word that is said about the United States Senators, and also the Congressman from our district being opposed to this bill. Our County Medical Society brought the bill to their notice, and received a reply all three of them—Pearson, Butler, and Pritchard, all agreeing to oppose the bill; that the chances were that it would never come up.

REPORT ON PATHOLOGY AND MICROSCOPY.

By W. T. Pate, Chairman, Gibson Station, N. C.

THERE is no striking progress to report for the past year. Most of the work has been done in clearing up preconceived ideas. Instead of writing a summary of the advances, I will leave this field to those who may present papers on special subjects connected with this section, and report some diagnostic laboratory methods, which I have found useful in town and country practice. Of course these methods are essentially the same as are employed in all clinical laboratories, modified to suit the conditions incident to private practice. I am convinced that a great many physicians feel the need of these helps, but are deterred from using them by the impression that the necessary technique requires great skill and are too time-consuming to be practical. But this is not so, and while we hesitate, there is a growing tendency in some quarters to doubt the correctness of the general practitioner's diagnois. And we foster this doubt to some extent by neglecting to use the methods which alone would place our diagnosis above suspicion. So let us face the fact that the progress of modern clinical diagnosis has imposed upon us new obligations and we must meet them.

Already too many have gone off to be cured by humbugs, after a grave prognosis by a physician based mostly on finding albumen in the urine; too many cases of socalled diphtheria cured by turpentine vapor, sulphur or calomel; too many cases of typhoid fever cured by special forms of treatment; and too many mistakes made in the name of malaria. Faulty diagnosis is the incubating oven in which are hatched and propagated most of the "cures," "treatments" and other humbugs with which the profession is afflicted.

I would not be understood as underestimating the heritages of our forefathers, nor upholding those who would make mere machines of themselves, by purely mechanical means of diag-

nosis; but rather as commending the practitioner who brings to his work all of the means of diagnosis, both at the bedside and in his office laboratory. His office laboratory should be equipped with a miscroscope with accessories, including a condenser and an oil immersion lens, a sterilizer, incubator and centrifuge, along with such glassware as test tubes, slides, cover-glasses, petri dishes, flasks, pipetts and a number of reagents; to these may be added a microtome, hæmotokrit and parafin bath, as his necessities may demand, and his time may admit.

Different kinds of culture media and a reliable culture of the typhoid bacillus are absolutely necessary. To the physician who lays any claim to keeping abreast of the times, the possession and use of this outfit is as essential to his practice as his thermometer and stethoscope.

It is no longer sufficient in suspected kidney disease to examine the urine for albumen and sugar, but in addition to these tests the specimen must be centrifugated and carefully examined microscopically.

It is impossible for any physician, however great his skill or extensive his experience, to make a positive diagnosis of diphtheria by physical symptoms alone. He must use the test tube, incubator and microscope to prove the presence or absence of Loffler's bacillus. He owes this to himself and his patient, that the proper treatment may be instituted; to the patient's friends, that they may not be compelled to isolate a patient suffering from a benign trouble; and to the community that its members may not be exposed to a dangerous contagious disease. The tubes that I exhibit and which I have been using in making a diagnosis in suspicious cases of sore throat were designed and kindly prepared for Dr. Anderson and myself by Dr. Kinyoun, of the Marine Hospital Servioe. They are 16 c.m. long, 12 m.m. in diameter, and are slightly constricted about 4 c.m. below the mouth. They contain Loffler's blood serum mixture—are hermetically sealed above the cotton plug and will keep indefinitely. When one of these tubes is to be used the top is broken off at the line scratched by a file on a level with the cotton plug. No antiseptic application having been made to the throat two hours previous, the throat is mopped with a sterile swab, the cotton plug removed from the tube, and the swab

brushed gently over the surface of the blood serum, and the plug replaced. The tube thus inoculated, if away from the office, is wrapped in tissue paper and placed in the inside vest pocket to keep it as near the proper temperature as possible until it can be transferred to the incubator. After remaining in the incubator at 35° to 37°C. for 12 to 24 hours cover-slip preparations are made in the usual way from the growth on the blood serum, stained with Roux dahlia and methyl green stain and examined under an oil immersion lens.

The formula for this stain is as follows:

Saturated alcoholic solution of dahlia . .	1 c.c.
Alcohol (90 per cent.)	10 c.c.
Distilled water	100 c.c.

This is marked solution A.

Saturated alcoholic solution of methyl green	1 c.c.
Alcohol (90 per cent.)	10 c.c.
Distilled water	100 c.c.

This is marked solution B.

Mix and filter.

These baccilli stain well with Loffler's alkaline solution of methylene blue and by Gram's method; but the stain recommended above brings out the rounded ends and beaded or granular appearance of the bacilli beautifully. The importance of the microscopic examination of the blood in making a diagnosis of malaria was discussed by Dr. Whitehead and Dr. Register in short pointed papers at our last meeting, and requires only a passing notice now. It was shown that the only positive proof of malaria is finding the plasmodium in the blood, and that without this proof we are liable to many grave mistakes. The technique suitable for these examinations was given in detail. It is also considered unnecessary to call attention to the microscopic method of examining sputum, pus, etc., which require only stained cover-glass preparations, and which perhaps, are already in general use. The domonstration of the practical value of the Widal serum test for typhoid fever has greatly simplified the differential diagnosis of continued fevers and other affections with which typhoid fever is frequently confounded. It has given us a method by which we can positively identify or exclude from our diagnosis a very common and widespread disease.

The method which I have employed, and which seems best suited for use in general practice is the drop method of Wyatt Johnson. Cultures of the typhoid bacillus are kept in test tubes on about 5 c.c. of glycerine-agar. When a test is to be made 5 c.c. of bouillon is added to the glycerine-agar culture, and some of the bacilli scraped off the agar with a sterile platinum needle. In 12 to 24 hours we have a rich bouillon culture. The patient's finger tip or lobe of the ear in washed in alcohol, then in sterile water, is punctured and a large drop of blood is expressed into the depression of a hollow-ground slide. This drop of blood is mixed with four drops of sterile water. From this diluted serum is made a hanging drop by taking 4 parts of serum and mixing with one part of the bouillon culture of typhoid bacillus and examined with an oil immersion lens; this is a dilution of about 1 to 10. This method is rapid and accurate. In cases of typhoid fever, the reaction which consists in loss of motility and clumping of bacilli is observed in from 5 to 30 minutes. I have applied this test to 37 cases clinically diagnosed as typhoid fever. The reaction was complete in 31 of these cases. Four were proven to be malaria, one streptococcal sore throat, and the remaining case was not tested after the tenth day, but its subsequent clinical history indicated typhoid fever.

I conclude that upon a correct diagnosis depends all intelligent management and treatment of disease. And that many cases cannot be correctly diagnosed without the use of these methods and our personal responsibility and obligation to our patients demand that we use them.

A PLEA FOR CONSERVATISM IN THE TREATMENT OF ABORTION.

By R. L. Payne, M. D., Norfolk, Va.

AFTER having been engaged in the practice of my profession for about ten years, and having had under my care many troublesome and oftimes dangerous cases, I cannot tell you with what pleasure I read the announcement of one of our greatest teachers that under modern methods no longer must cases of abortion be allowed to drag out a weary length, resort must at once be had to the safe, easy and certain method of emptying the uterus at one sitting by means of the uterine dilator and curette. I at once adopted the new plan of treatment, and now after something more than ten years I have been summing up the results and asking myself is the new plan safer and better for the woman than the old? Not only have I been watching my own cases but I have been studying the work of others, and after all, I am forced to believe that in the majority of cases the tentative treatment is the best for by far the largest number of cases, and while I believe there is a field for the use of the curette in abortion, I believe it is strictly limited to septic cases and those in which the products of conception having escaped, hemorrhage is kept up by retained placental fragments.

What are the great sources of danger in cases of abortion? As to the first, I think we are all fairly well agreed that violent, alarming hemorrhage in these cases must be controlled very largely by the vaginal tampon. As to the second source of danger let us first consider what measures nature has instituted to protect the woman from auto-infection and then we will be in position to consider in detail what treatment had best be adopted. At the risk of being a little irksome, let us think for a moment of the circulation of the placenta, composed as it is, on the one hand of arteries carrying the maternal blood and

terminating not in capillaries but in great sinuses, and from these sinuses the blood is carried back to the mother after it has served its purpose in the nutrition of the fœtus through the maternal veins, and on the other hand of arteries passing from the fœtus terminating in the villi which penetrate the uterine sinuses and bathed in the maternal blood imbibe whatever may be necessary to the nutrition of the fœtus and throw off by exosmosis all effete matter, the blood being then returned to the fœtus by the umbilical veins. Let us note then just here, that there is no direct intermingling of fœtal and maternal blood, or in other words, no continuity in the vessels of womb and placenta, and hence, no danger of putrid matter being taken directly into the blood of the mother from a decomposing placental mass. Let us notice in the next place, that if the placenta be carefully separated it will be found that the fœtal and maternal portions are separated by a distinct tissue, which Lieshman describes as the inter-utero-placental tissue, and though the curling arteries of the uterus do penetrate this inter-utero-placental tissue it has never been demonstrated that the lymphatics pass through this dividing tissue line, and hence it is fair to infer that the absorbent vessels of the uterus are protected to this extent at the placental site from any septic matter which may be found in the uterus. But again, no sooner does the placenta separate in whole or in part from the womb than the mouths of the torn uterine sinuses are plugged by the formation of blood clots, thus effectually closing them as avenues of infection. While last, but by no means least, the placenta is usually situated at the fundus of the uterus and thus nature has provided for drainage of septic fluids away from the placental site.

But again, let us notice that when the placenta becomes detached in part or as a whole there is very nearly always more or less uterine action, and, as a rule, a portion of the placental mass hangs out of the os so that the dilation is maintained and the exit of fluids from the uterus facilitated and thus the first great principle of antiseptic practice—thorough drainage—is provided, again reducing the danger of infection at the placental site. And now it remains only to call your attention to the fact that the whole parturient canal is always coated with mucus which reduces absorption by the mucous membrane to a

minimum and to recall to our minds the recent demonstration of bacteriologists that this mucus is loaded with saprophytes exceedingly destructive to all other bacteria, and we can but wonder at the wonderful provision the great Creator has made to protect the woman from all danger of sepsis during the accidents of pregnancy. But I think I hear you say "this is all very specious argument but whether or not we accept the argument the fact remains that no matter what provisions nature has made to prevent septic infection in cases of abortion such accidents very frequently occur." True, but a careful study of this class of cases leads me to believe that septicæmia occurring during abortion is the result of the infection of some traumatism produced by meddlesome efforts to accomplish that which nature is, as a rule, able to bring to pass without either a curette or other serious intervention on our part.

I do not believe there is any man so skilled in the sense of touch as felt through a metallic instrument as to be able to curette the womb without doing more or less violence to endometrium not involved and thus are created many traumatisms ready to suck up any putrid matter which, passing downward, seeks an exit in the vagina. But you say, granted that the curette may produce such lesions as you suppose, there is still no danger of infection, for by the operation we scrape away the entire placenta, mop out or wash out the uterus with suitable antiseptics and thus leaving the patient in a thoroughly aseptic condition there can be no further danger. Yes, I admit that is the ideal operation, and if that could always be accomplished all would be well; but, remember, that this class of cases fall into the hands of all sorts of physicians, with every grade of qualification, and I opine of the most skilled to only a small minority is granted a sense of touch so delicate as to be able to determine absolutely by the impression made through the curette to the operator's fingers or even to the finger itself, that every portion of the placenta has been removed, and if only a small portion remains and the mucous lining the womb is wounded by the curette how much more liable will the woman be to absorb the septic matter as it passes downward to the os than she would be to absorb it at the fundus. Finally, in this connection, let us note that in the efforts to scrape away the placenta the inter-placental tissue will be also scraped away, the uterine

lymphatics directly exposed at the placental site and the danger of septic absorption increased many fold. In the course of my own experience I have very rarely seen septicæmia occur in cases of abortion even under the worst conditions, where no manual efforts were made to remove the placenta except from the vagina, and I believe that in the vast majority of cases the best interests of the patient will be subserved by tentative treatment. When symptoms of threatened abortion occur the woman should, of course, be at once put to bed and the most absolute quiet of mind and body must be observed. If there is pain the viburnum prunifolium must be freely administered in large and frequently repeated doses. This is one of the best of all drugs to quiet uterine action but requires to be given in very large doses to produce the desired effect, and, as I have written elsewhere, if there be much hemorrhage it is a dangerous remedy, because it is a paralyzant of unstriped muscular fiber, and therefore, by lessening uterine contraction, promotes hemorrhage. If hemorrhage is sufficient to demand attention, stop the viburnum and resort to small doses of opium, ipecac and acetate of lead, and if hemorrhage is very free then resort must be had to the vaginal tampon of iodoform or other sterile gauze. Before applying the first tampon I never resort to the antiseptic douche as is so constantly advised because I do not wish to wash away nature's coating of mucus or destroy her scavengers, the vaginal saprophytes, but if it is necessary to apply the other tampons I always douche the vagina with warm (not hot) sterilized water to wash away any decomposing blood clot or other debris which may be lying there. It is rarely necessary to apply more than two tampons. Usually on the removal of the first tampon the products of conception are found lying in the vagina or hanging so loosely in the os that it may be gently drawn away by the finger. Just here a word of warning, and that is, unless the whole conception can be readily removed by the finger do not permit yourself to remove a portion, as in that case the mouth of the uterus will close up, imprisoning the remainder and all uterine action will cease. If, however, this is not the case, and hemorrhage is still to be feared reapply the tampon and this may be repeated again and again, but in my experience it is rarely necessary to apply a third tampon, as, after the second tampon the hemorrhage is

usually so slight as to no longer be a source of alarm. So long as the abortion is not complete the woman must remain in bed and the warm sterilized douche used twice daily to bring away any foreign matter in the vagina. The os will, as a rule, be slowly dilated and the ovum forced into the vagina. Interfere as little as possible, remembering that even the finger may introduce septic germs or create slight traumatisms of vagina or os uteri that will greedily absorb anything passing over the abraded surface. If the discharges become of very foul odor or at any moment that septic symptoms supervene then resort may at once be had to the curette and under the strictest attention to antiseptic detail the uterus cleaned as thoroughly as possible of its contents. Even then, let us remember that in the use of the curette we are only choosing between two evils.

In conclusion, permit me to add that I do not wish to be misunderstood. I do not wish to say that the curette is never necessary in exceptional cases and that it should never be used except by one fully aware of the fact that this little instrument is full of ruinous and even deadly possibilities. Today, every fellow who can buy a set of uterine curettes stalks about the land armed cap-a-pie, and upon the slightest provocation attacks the womb. The doctor records an operation but the woman may record the initial date of a ruined life.

If the history of the individual life of the medical men of today is ever written, blessed will be he who has no surgical sins chargeable to the use of the curette.

DISCUSSION.

Dr. Hines:—After an experience of 40 years, I differ entirely with the doctor's paper. When there is no hemorrhage, I do not think it necessary to do anything, but wherever there is hemorrhage, I have found no surgical operation to give more perfect satisfaction than the curette. I would no more tampon in uterine hemorrhage after abortion than I would rely upon pressure of an artery that ought to be tied. For 25 years I have used the curette after abortion for hemorrhage to clean out the remains of the placenta. No operation I have ever done in surgery gave me more pleasure and satisfaction, and I have done curetting for hemorrhage sometimes after labor. Sometimes I have stopped hemorrhage with the curette that would have ended in certain death. I say, above all things, if you have hemorrhage after abortion, don't trust to a tampon, but

clean out the contents of the uterus thoroughly. Another thing, I want to mention a case I saw about 1857. A woman had been confined and had been attended by a midwife. About twelve days afterwards, I was sent for. As soon as I opened the door, I was met by a most offensive odor. I found out that the placenta had not passed. It was thoroughly decomposed, as it had been from twelve to fourteen days since she was confined. The placenta remained part in and part out. I had no instrument at hand, and I simply used my hand to clean out the uterus. I confirm what Dr. Payne says about the protection nature affords woman. I never struck a more offensive odor in my life than I did when I went into that room. And by removing that placenta, I never had a bad symptom.

Dr. Jordan:—I endorse Dr. Payne's position in this matter, and would like to give my experience, which has not been very abundant, and yet I would say that if there is any sin chargeable to me, it is for not curetting. I have been practicing since 1881, and while I have not had a great many cases of abortion, I have never had occasion to use the curette in any case I have ever had. I have never had a death from abortion. I have never left a case of abortion until I left it completely satisfactory to my own mind that there would be no more hemorrhage, because I had emptied the uterus of its contents, and I have always been able to do that with my finger. I may not have had these bad cases that need the curette and the tampon. Some three weeks ago I was called to see a lady who had miscarried some seven weeks before, and the secundines had not been entirely removed. While there was no hemorrhage to amount to anything, she was taken violently ill with flooding. I did not see her because of absence from home that day, but another doctor was called in, and they together curetted that woman. I less than six hours afterwards, she had a septic chill with a temperature of 106. A second chill came on before we could pack the uterus with iodoform gauze, and after the second chill we completely rinsed out the cavity with antiseptic water and packed it, which prevented further trouble. She recovered.

Dr. Payne:—I am a little bit surprised at the position Dr. Hines has taken. He seems to have been very much in advance of the times, as it is only claimed that curettement has been taught ten or twelve years, while he has been curetting the uterus for 25 years. I am also surprised to see that Dr. Hines says he never tampons in case of abortion to prevent hemorrhage. I believe that is a recognized treatment for abortion. He advocated the use of the curette for the relief of sepsis. I do not want to be put in the position of denying the importance of the use of the curette in a case of sepsis or to relieve hemorrhage, when that hemorrhage was due to the retention of placental fragments, but I do claim that the majority of cases of

abortion do not readily become septic unless some septic material is introduced, and that is readily done through the curette. I am afraid of this; I do not believe that any man is usually possessed of so delicate a sense of touch as to be able to do always just what he intends to do. If this were so, I would readily agree and would not for a moment argue the propriety of saying curette at once, but I have seen the skilled operator strike through the uterus entirely, and I have seen the accident occur in less skilled hands. Another very skilled operator curetted to prepare for hysterectomy for cancer; a few days later he found a polyp larger than my thumb in the uterus, and this seems to me to prove that a very skilled operator may leave what he did not intend to leave, and that even the skilled operator may do damage. I want to caution agains the indiscriminate use of the curette, and I do so because I have seen so many cases allowed to go on to a simple recovery without any curette, and they have no trouble at all. Most of you have had quite a large experience in negro practice. Usually most of those in a family way want to make their periods appear. Perhaps the woman has taken all sorts of teas and decoctions to accomplish the end, and she gets a little more show, and will go on in this way four or five days, and after a while she feels a sharp pain and that is the end of it. They don't get any treatment and they don't get any sepsis.

Dr. Hines:—I think the doctor misunderstood me. I did not say I had used the curette for 25 years, but during that time I have used it, and I have never found any better satisfaction in any operation I performed in over 40 years of surgery. I do not advocate the use of the curette on all occasions; I said, especially where there were remains of the afterbirth in the uterus.

Dr. O'Hagan:—I dislike to prolong this discussion, which I think has wandered somewhat away from the first principles. I would like to point to Dr. Payne's paper as a very timely one, and very apropos in all respects. Perhaps there has been a good deal of needless interference on the part of obstetricians, and this gentleman raises a warning voice against it. Since the uterus and its appendages for the past 30 or 40 years have been made a special object of attack by the medical profession in every possible way, with sharp and blunt instruments, every medical tyro, myself among the number, though hardly a tyro now, made a great many sins of commission and not so many of omission as we ought to have done. I think this is meddlesome midwifery. Nature has so arranged reproductive organs that mankind will continue to increase without making reproduction such a deadly condition as the modern gynecologist would make it appear that it is. The indiscriminate use of the sharp curette I

have seen time and again do a great deal of harm. I think that the less you dally with this unfortunate organ, the better results you will have. The finger will sometimes answer for the purpose. Generally, for the purpose of emptying, the blunt curette alone should be used, and then as a last resort. If sepsis comes on, that is a different thing.

WHAT SHOULD BE THE ATTITUDE OF THE GENERAL PRACTITIONER TOWARDS SERUM THERAPY.

By Charles L. Minor, M. D., Asheville, N. C.

THE attitude of our profession today towards the Serum Therapy of infectious diseases is so varied, we find so many ardently championing some special serum, so many as violently opposed to all, and so many more yet uncertain what is the wisest attitude to occupy, that a few remarks on the subject of our position towards this new branch of therapeutics may not be untimely, more especially, if as I hope, it calls forth active discussion.

I do not intend today to quote personal experiences, but rather to discuss abstractedly what should be the professional attitude on the subject. There are many candidates for our favor and patronage, each urged with insistence by its especial advocate, for, in this line at least, gentlemen, the manufacturer cannot leave the doctor out of consideration, as is his wont, nor go, as so many gladly would, directly to the patient. All of them, various as they are, can be classed either as toxins or anti toxins, and while the first step towards their use dates back to the work of Pasteur in 1880 on chicken cholera, it is only since the success of Behring that we have been overwhelmed with examples of this class of remedies, and today the yellow journals of the medical press not infrequently startle us with a discovery of some new panacea of this nature, mostly, let us all be thankful, foredoomed to the fate of all premature births. Indeed, it is because the number of candidates for our favor has grown so large that I have thought it worth while to speak on this subject today, for who but is bewildered when trying to make a choice between so many loud-voiced claimants, whose specious arguments, clothed in semi-scientific language, would often almost convince us, despite our better judgment, that in them alone can lie the salvation of the patient? That patient, gentlemen,

has entrusted his life to our care, believing that we, neither held back from acknowledging good however new, by an undue conservatism, nor rushing with unbalanced radicalism to anything which makes promises of success however ill founded, will find no effort too great, and no study too tedious, which will bring him relief. Therefore it seems to me we doctors have a great responsibility in this matter, and cannot ignore on account of its novelty, any honestly-offered and scientifically-grounded means of help.

In considering the value to our patients of any such product, we have unfortunately to consider not only the scientific or quasi-scientific basis upon which it rests, but equally the source from which it comes. Were all men equally honest and equally imbued with a pure desire to benefit their kind, even while filling their own pockets, we might safely confine ourselves to a consideration of the scientific side alone, but when you consider how lamentably commercialism has invaded even our laboratories, those homes, we would fain believe, of pure science; how each manufacturer, thinks to increase the sale of his own wares by damaging those of his competitors; how charges are brought of flagrant dishonesty in the production of fluids, for which large sums are charged and large claims made, we find it essential to look deeper than the circulars and literature with which we are deluged before using on our patients liquids as to whose purity and flawlessness we are so often forced to take the word of an unknown manufacturer. When we consider how, unless we know the author personally, we are often obliged to take *cum grano* the statements of so many articles in our medical press because sad experience has taught us that self-interest or enthusiasm can blind even honest men and cause them to make statements which cannot bear the test of disinterested investigation, we can see how much more careful we need to be before accepting as proven the claims of those who have not only an intellectual but pecuniary interest in spreading the use of their preparations.

In some degree of course we are obliged to trust to the bona fides of the producer. A universal distrust of our fellow men would put a stop to the commonest transactions of daily life and be as foolish as it would be unhappy, but a wise caution

and a prudent conservatism would teach us to be none too hasty in giving our adhesion to this or that product because of apparent good results reported by the maker.

The logical fallacy of *post hoc propter hoc* into which our profession is so prone to fall in its use of remedies is too apt to cause us after a short use of some promising preparation, to proclaim with undue haste its wonderful results, when a careful study of surrounding conditions would show a sufficient cause for the improvement noted.

This is more especially true of those of us who, living under the unusually favorable climatic conditions of Asheville, are called on to treat many cases of pulmonary tuberculosis. Most incipient cases in such climate make remarkable advances in a relatively short time, and it takes a keenly analytical mind and an unbiased judgment to disentagle those results due to favorable surroundings from those which are the consequence of the medicine used. Moreover, there is no class of cases in which experience more plainly teaches the temporary but extraordinary influence of suggestive therapeutics than consumptives, and all who have been called on to handle many such will confess that every and any remedy begun in faith will for a time work marked subjective improvement, and it is suggestive improvement which, less truly valuable than objective, but more showy, wins for us from our patients the most praise.

But there is another element which can well deceive us and against which we must be on our guard; I refer to the unconscious effort we all make to seek favorable symptoms, no less for our own encouragement than for that of our patients, so that we are in danger of seeing an improvement when none really exists, and of hoping for a cure when our better judgments tell us it is impossible.

The enthusiasm of the patient over the new treatment from which he hopes so much puts him in an excellent position to magnify each slight advance, and comforting as it is to a doctor to be met, not by depressed and depressing accounts of painful symptoms, but by news of daily advances, we need to be carefully on our guard lest we be deceived by it, and are tempted to hope unduly and promise more than we can fulfill.

The doctor's own enthusiasm and not the patient's alone needs to be looked to, for I need hardly remind you that in this

very trap of his own contriving have fallen not a few of the world's greatest doctors: even the great Koch not being proof against it and we now know that his desires to see improvement in his cases and his enthusiasm over the great idea he was developing blinded him to much that the cooler and unclouded vision of outsiders detected.

A further item of serious consideration and one which our patients most often enquire about, is the possible danger involved in the use of these various preparations. All such serums can, whatever the form in which they appear, on close analysis of their action, be classed under two heads, *Toxins* and *Anti-Toxins*, the former aiming to introduce into the system, not necessarily always in the same form, the toxins of the germ which is causative of the disease, in minute and steadily increasing doses in order to cause the formation in the blood by an unknown action of the poison in the system, of nature's remedies, the antitoxins which shall confer immunity from the disease or arrest it while in progress. Under this class comes first and foremost Koch's Tuberculin, which as you all know, is a filtered glycerine extract of pure cultures of the bacillus and rich in their poisons. Further, Antiphthisin and Tuberculocidin (Klebs), Koch's more recent tuberculin R and tuberculin O, containing certain parts of an extract of the ground bodies of the germ, Kleb's plasmine, a very recent product, and Hirschfelder's oxytuberculin, as well as a few others used in other diseases, though on the whole the toxins have found more use in tuberculosis and in the production in animals of antitoxic serum than in the acute iufectious diseases.

The second class, or antitoxins, produced in the bodies of suitable animals by the introduction of the toxins into their blood and collected from that blood after complete immunity has been produced, aim to introduce into the circulation the antitoxin ready made instead, like the last, of stimulation its anti-production.

At the head of this class and in results far surpassing any other stands Behring's Diphtheritic antitoxic serum, so well known to all of us, and I feel safe in saying it needs at this date no defender before any advanced body of practitioners. Its victories over disease and death are too numerous; its vindi-

cation before the medical world too recent, to demand from me here any arguments in its favor. In the same category yet not occupying as yet the same assured position are *Marigliano's anti-tubercule serum*, *Panquin's similar article*, both produced in horses or asses by the use of the tuberculin of Koch, *Fisches antiphthisic serum Tr.*, which only differs from these last in being produced by the use Koch's tuberculin R, *deSchweinitz's serum* produced under the Government in the Bureau of Animal Industries in Washington, *Marmorcks antistreptococcic serum*, *Hafkin's plague serum*, *Behring's* and *Tizzoni's tetanus antitoxins* and a few others less known.

Much variation of opinion exists in the profession as to the relative dangers of toxins and antitoxins, but I think I can without fear of contradiction assert that the use of the former whatever their therapeutic value is combined with the greater risk.

The injection into the human body of substances so active can never be entirely shorn of danger, and while I would go on record as advocating their judicious use in careful hands and in properly indicated cases, I would not fail to dwell with emphasis on the dangers which are possible from their incautious exhibition.

The antitoxins, despite all that has been said by many zealous opponents of their death dealing properties, and of Behring's more especially, can, I believe, be regarded as entirely safe, though not infrequent erythemas and urticarias and occasional febrile reactions, which cannot, with even the utmost aseptic precautions, be avoided, will sometimes alarm those not familiar with their use. These manifestations, however, cannot be regarded as more than uncomfortable for the patient, or demanding anything but a temporary disuse of the serum, and if the patients are warned beforehand of the possible occurrence of such symptoms, they will not alarm even the most timid. It is worth while recalling here the violent attacks of the Berlin pathologist, Langerhans, on Behring's Serum, when after its injection his child promptly died, and yet indisputable as his case seemed, an autopsy demonstrated that not the serum, but a choking to death in its own vomit through fright at the hypodermic puncture was responsible for his bereavement.

Granted then, that the use of these preparations is without great danger, or even danger commensurate with the advantages they offer, how soon must we employ them if we are to expect satisfactory results?

Here, again, we have to distinguish between their use in acute, as distinguished from chronic infectious diseases. The former includes today for all practical purposes of orrhotherapy, *diphtheria*, *streptococcal diseases* and *occasionally tetanus*, though doubtless it will not be long, if the rapid advance of bacteriology continues, before typhoid and cholera can be added to the list. In all these cases if we are to expect success, we must make the earliest possible use of the remedies. The experience with diphtheria has taught the great dangers of delay and no one who has his patient's interests at heart but will urge an early resort to them in this disease at least. No sooner is the diagnosis made—I had almost said strongly suspected—than it becomes our duty to use it at once, not wasting invaluable time, but boldly availing ourselves of the help it offers. Indeed, enough clinical evidence is now at hand to justify me in recommending its use in immunizing doses in all children likely to be exposed to the contagion, the most recent researches in Berlin having shown that a repetition of the injection every 21 days during an epidemic keeps the child safe from infection.

With streptococcal serum the evidence is far from being equally favorable and many good men have gone on record as opposed to its use, yet even here, granted as an all essential prerequisite that the causative agency of the streptococcus has been proven beyond doubt, we have enough evidence to encourage us in its use in puerperal septicæmia of streptococcal origin and other similar streptococcal infections. Personally, I have found it of great value in controlling and eliminating even in favorable cases the mixed infection so often present and so troublesome in the third stage of phthisis. Here it has been of undoubted efficacy in reducing temperature, decreasing the streptococci in the sputum, and even in removing all signs of their presence, and I would urge a fair trial of it in these cases.

As to the other and less commonly needed and used serums for acute infections, they have not, with the possible exception of Behring's tetanus antitoxin, which, in this dreadful malady,

can apparently do no harm, and may do much good, reached that stage when their use in general practice would seem to be fully indicated.

Of chronic infectious diseases susceptible to serum therapy, we are today practically limited to tuberculosis, though, here again, we may expect before long to see actinomycosis and lepra included, and the painful prevalence of the great white plague, as tuberculosis has so often been called, accounts for the large numbers of serums which have been offered for its cure since the epoch-making though unsuccessful attempt of Koch, and my remarks shall be confined in view of their number to a general estimate of their position as a whole rather than to a criticism of any individual preparation. It must be remembered that despite the many brilliant efforts to find a remedy of this nature for consumption the investigator works on an entirely different and less promising basis here than he does when studying out some antitoxin for an acute disease. In these latter maladies the strong and even virulent action of the germ creates in the body an actively hostile tendency, and even the milk of a female patient is found to contain the antitoxin, which can in some degree confer immunity on the child sucking it. The reaction against the poison is violent and strong, and offers, combined with the assistance given by our serum injection, rich in antitoxic power, great hopes of final victory. In tuberculosis, however, the conditions are far different; the invasion is slow and insidious, the body apparently does not develop immunity, and we all know a patient cured of the disease far from being immune from future attacks, as is the case in acute infections, is even more prone than another man to reinfection; the milk of tubercular patients has no immunizing power and aside from its poor nutritive value frequently contains the germ of the disease. The fever may indeed, as is now so often claimed, be an effort on the part of nature to destroy the poison, but all who have followed it know that if so, the attempt is a miserable failure. This being the situation, we cannot justifiably expect from toxins or antitoxins in this disease the brilliant results which have been obtained in other cases, nor hold out to our patients such hopes as we might, for example, in diphtheria. Have we, however, reason enough to promise, if not help, at least no harm, and is there enough possibility of help to encourage us in a faithful and persistent use of the remedy?

Remembering the bright promise of 1890 so soon followed by sad failure, remembering the warnings of Virchow, and the more recent adverse experiences of German investigators, the profession has ever before it an excellent deterrent from too hasty action and rash generalization and is in little danger of being too quick in the matter; indeed, needs possibly some encouragement for a further trial, not of rejected serums, but of the new ones built on the experience gained from past failures.

But, first and foremost, let me protest against the useless waste of money, and far worse, the cruel waste of hopes which necessarily must occur where we resort to these substances in the advanced stages of Phthisis. Cavitation, save where very slight, hectic fever, dyspnœa while at rest, advanced symptoms of any sort should all be regarded as absolute contra-indications for their use, and if anything be used let it be Marmorek's anti-streptococcic serum, as directed against the rarely absent and most serious mixed infection which we find in all these cases and which becomes in the end of Phthisis so much more dangerous than the tubercular infection alone.

If we would obtain real results, if we wish to be able to judge intelligently of effects let us avoid the serums save in early, yes, *very* early cases.

Slight apical consolidations with limited extension and no great signs of activity in patients of such constitution as to satisfy us there is no likelihood of the the trouble becoming acute; it is in these cases that we can expect results and I have seen such stopped short and no further advances of the trouble in two years of observation after a course of serum therapy.

But you will truly say that it is just such cases which yield good results from almost any method.

Yes, I admit it, and as an ardent and convinced advocate of the paramount value of hygienic and climatic therapeutics in Phthisis are ahead of any and all other methods, I would be loth to resort to serum until I had given the other, and to my mind, better treatment, a fair trial. If we proceed in this way there will be but a minority of our cases where we feel called on to use these preparations. But, gentlemen, we all know, that however minutely and faithfully we carry out a hygienic cure there are cases which, advancing at first rapidly towards improvement and clearing up to a certain extent, reach finally

a point where, possibly, from some vice of constitution, further advance seems impossible, do what we may. There is not much trouble left, but after several months we find no material lessening of the area of involvement.

These, to my mind, are the cases "par excellence," where I would use serum therapy, and it is in these that I have gotten the best results from its use.

Where there is, on the other hand, a fairly extensive involvement of lung, with no great breaking down of tissue, but with suspicious constitutional symptoms—weakness, fever, and a tendency towards extension, as shown by a month's close observation, and where we fear the development of acute conditions, avoid the toxins, but use, if you will or must, the antitoxins, for these are the cases which Virchow demonstrated so often the dissemination after the use of tuberculin.

Again, in old, chronic cavities, with fibroid tendencies and sluggish course, I personally consider it foolish to resort to any other means than hygiene and prudence, with possibly, some antibronchitic like carbonate of guiacol. In all cases of acute tuberculosis I would fear the remedy and have but little faith in its efficacy.

Above all, I would say, use a serum in *no* case till after at least one month of observation, for, when first seen, which of us is so acute as to be able certainly to say that the slight apical consolidation with slight softening may not be but the first stage of a galloping case.

I recall now a sad case in a young and promising physician whose physical signs were so slight that aside from a prostration and exhaustion out af all proportion to the lung tissue involved and a suspicious cyanosis of the face there was no reason to fear a bad result yet for a time, nevertheless, one month later a large part of both lungs was involved in a destructive process, and whose death followed in less than a year.

In short, as far as the orrhotherapy of tuberculosis is concerned while urging for it a fair trial and feeling sure that it will often prove an invaluable aid, I would say that no remedy is so ill-fitted for routine use, and none demands a more careful selection of your cases, nor a greater judgment on the part of the doctor in the true estimation of the results obtained.

And now in closing, gentlemen, let me apologize, not only

for the incompleteness of this paper, which, however, if it but excites discussion, will have served its purpose, but also in that I have allowed myself to be drawn so much to the serum therapy of tuberculosis, but I trust the fearful prevalence of this disease, its frequent occurrence in every practice, and the general desire of all of us to find means for combatting it will serve as my excuse.

It is not easy for us medical men to steer an even course, avoiding on the one side the Scylla of a radicalism, which would thoughtlessly seize on each new candidate for therapeutic laurels, and on the other the Charybdis of ultra-conservatism, which refuses to see good in anything which is new.

The golden mean is, or should be, our aim—that happy balance between the two extremes—where lies the Truth.

It is the chiefest bounty of our noble profession that it ever seeks that truth, and though pessimists and detractors can show many a sad departure from that high aim, of the great body of the profession it is still true that above its own pecuniary gain, above the plaudits of the world, often indeed, despite its hisses, it holds and works for the good of humanity and for the truth. and allowing these two guides it cannot go far astray, and what ever the hasty verdict of today, we may be, sure that the future at least, will do us justice.

DISCUSSION.

Dr. Burroughs:—I wish to say that I have listened with a great deal of pleasure and profit to Dr. Minor's paper. I think it is a valuable paper on serum therapy from a logical standpoint, and well presented. I wish simply to make a statement. I believe in all acute infectious diseases, there is a field for serum therapy, but in tuberculosis it is different. I do not think there will ever be a serum perfected that will be of any value in that disease. Koch came out in 1890 with his tuberculin, and the medical world rushed to Berlin to get every idea in the manufacture and administration of the same, and they were disappointed. He made it a study since then, and last year he gave to them what he called Koch's Tuberculin Tr. A few men experimented with it very thoroughly. I read Dr. Dennison's paper carefully, and knowing him, I wrote him a letter about it, and he told me that in the short time of two months, his ideas in regard to the treatment of tuberculosis with Koch's Tr had entirely changed; that he regarded it as

absolutely worthless and dangerous; more than that, he thought it equally dangerous as the first tuberculin used. He said treating a patient with it was like going around with a light in a powder magazine, and he advised me not to use it. I want to say that I shall never use any serum therapies for tuberculosis, God being my helper. I went off in 1890 and 1892, and I killed some patients, and since then I have never used any of these serums, and I never will again, until they have been tried and tested thoroughly and pronounced safe by the profession. I have had patients to come to me with little bottles of the serum. I have refused to give it to them, and because of my refusal, they have gone to those who would give it to them, and they have passed away into their long rest.

Dr. Levy:—I have listened with a great deal of pleasure to Dr. Minor's most able paper, and can only second what Dr. Burroughs has said. It is one of the most able presentations of the subject to which it has ever been my pleasure to listen, and it is a satisfaction to me that it is so, because I understand that the discussion is limited to five minutes. I feel that this is an immense subject, and that if the paper had been less able, I would not have liked to take a portion of five minutes to express my satisfaction and the pleasure I have received from attending this meeting. Being my first visit to the State, and having been here only 24 hours, I can only say that it has never been my lot to be more cordially received; from the minute I first struck the town and found out I could get free soda water at the drug stores, up to the present time, when the courtesy of speaking has been extended to me.

The question of serum therapy is an immense one, and the propositions set down by Dr. Minor have followed my own idea so closely that there is very little to add. As the doctor rightly says, no one needs to argue before such a body as this the advantage of serum treatment in diphtheria. There are a few points, which I believe, are not yet generally appreciated by the general practitioner. The first of these is early administration, not waiting until you have made an absolutely positive diagnosis, but giving it at the earliest possible moment if the the case is suspicious. I do believe that a positive diagnosis should be made for many reasons which it is not worth while to enter into now. Another thing, I believe practitioners give insufficient doses of diphtheria antitoxin, and the laws laid down by the American Pediatric Society last year should be followed. Another point in this connection is a very important thing, the title of the doctor's paper, the attitude of the general practitioner towards these serums. Regarding diphtheria antitoxin, the private practitioner ought to be able to treat it better than the hospital practitioner; certainly does this apply in diphtheria. The private practitioner sees the cases earlier on an average than does the hospital physician, and an early treatment being

sine qua non in the use of this remedy, the private practitioner has advantages immeasurably superior to his hospital brother in the use of diphtheria antitoxin, and from the private practitioner you must ultimately get ideas of the real worth of this remedy. As regards the use of tetanus antitoxin, the results from this are better than diphtheria antitoxin in the laboratory. The reason for the less favorable results in the clinical use of tetanus antitoxin is very simple. In tetanus, we do not know the patient has tetanus or is going to have it until the symptoms of the toxin are well developed. Diphtheria is a disease which is characterized by local phenomena, and we are able, in favorable cases, to treat our patients before toxemia appears. Of course, chemically and physiologically, it is an antidote for the toxin, and if we are able to head off the effects of this toxin, we can accomplish good. In tetanus we cannot do that, as we are only able to treat our patient after toxemia appears.

I was delighted to hear Dr. Minor express himself so conservatively about the use of these sera in tuberculosis. I agree with Dr. Burroughs that the conditions which we know here in a disease, a chronic disease, are utterly different from what they are in diphtheria and other diseases where we find the serum to be of benefit. We can only hope for something new to develop, some different principle of manufacturing, possibly. At present I have no hope of anything for tuberculosis No doubt the future holds in store a great deal for us. The question might naturally arise could we not have a serum to treat acute infectious diseases? In the first place, we cannot make a serum until we know the germ of the disease For that reason we have no serum for scarlet fever, chickenpox, measles, or any disease whose germ is not yet recognized. Again, in a disease like typhoid fever, we know the germ, but cannot cultivate it outside the human body. We have no serum for it, for we have no animal that suits for its culture, like the horse in diphtheria and tetanus. No animal is subject to typhoid fever, nor can we produce it by injection of the toxin of this disease. That applies essentially to typhoid fever and cholera. It is not at all improbable that in the future we may find some way of manufacturing an antitoxin from the toxin direct without the intervention of an animal. If that be the case, we will undoubtedly at once have remedies for such diseases as typhoid fever and cholera.

Dr. Minor:—I haven't anything to say except to thank the gentleman and to thank the doctor for his excellent exposition of the scientific bacteriological side of the subject. I will state that in regard to the point which Dr. Burroughs very properly made, that Tuberculin R is no longer made in Berlin. In the beginning it got more and more in favor, and now I am told it is no longer made—a very good evidence in my mind of the

general popular opinion. As regards the tuberculin, it is only made for veterinary uses, or possibly for a few men for diagnostic purposes. I would state that my observation is not so great as Dr. Burroughs'. His bad results in 1890 should not have so strong an effect as to make him close his ears forever and entirely to every serum. I particularly avoided the mention of any special serum, for I did not want to go on record as being in favor of Smith, Brown or Jones. I began the use of oxydized tuberculin as a skeptic in the case of a young girl, and it was on account of her own absolute heedlessness and imprudence that I was unable to carry out in the least degree, even with the assistance of her mother, any of the well-kown hygienic treatment necessary. The case continued to grow worse, and as a last resort, I tried tuberculin. I gave it two weeks. At first the result was a marked improvement, subjective, I thought. The appetite improved, the slight cough disappea ed, the nausea disappeared, the temperature of 99 to 100 disappeared. We ran out of serum, and she had to do without it, and again the temperature came—might have been psychological, but the symptoms returned in a slight degree. I resumed it again, and used 400 cubic centimeters. I must say that at the end of the treatment there was a slight retrogression in the apex of the lung, entire disappearance of the fever, and entire loss of anarexia—she was a poor eater at best—and a marked improvement in every way, which, though I had to be con servative, I could but ascribe to the medicine. There is no return of the cough, no return of temperature, and she seems to be doing well. I give this case for what it is worth.

MODERN THERAPEUTICS.

By A. J. CROWELL, M. D., China Grove, N. C.

IN studying therapeutics, or the use of means to retain health, give ease and prolong life; and, in contrasting therapeutics of the present day with those of Abernathy, Cheslden, Liston, and others, is it not perfectly natural, with our present knowledge of histology, bacteriology, medical microscopy, and the splendidly equipped laboratories, for us to look into the future with greater hopes and brighter anticipations for therapeutics than at any era in the history of man?

For hundreds of years, the most learned and aggressive men in the profession saw that the theory of a *contagium vivum* was the only rational explanation of the spread of epidemics. But the medical profession was forced to await the discovery and development of the compound microscope before the causative relationship of minute forms of life to disease could be domonstrated to the senses. It was then, and not till then, that it was positively determined that the infectious diseases were caused by certain micro-örganisms.

The observations of Davaine and Pollander, in middle of the nineteenth century, followed by the faithful researches of Pasteur, Koch and others, have thrown much light on the etiology of the infectious diseases, and in fact, lifted it from the uncertain status of speculation and placed it upon the solid rock of science. No one would claim that the labors of the century just closing leaves no field for the future investigator, but that the past investigations have laid a firm foundation, and that the field for future investigation is greater than ever before.

The Roman physician described the dates and varieties, the habitat and peculiarities of malarial diseases as accurately as we can to day. The use of arsenic or the Jesuits' bark was well known to control them. But why were some quotidian, some tertian, and some quartan? We were as ignorant as the Roman until the microscope discovered the germ of malaria in the

blood, and showed that its period of growth by fissure marked out the access of the chill into one, three or four days interval.

Hippocrates advocated pure air, pure water, and a pure soil, as the requisites of health. Today we know why air may become impure, how water becomes infected with water-borne diseases, and by what means to purify the air, cleanse the soil, and thus prevent the spread of diseases.

In disease, Sydenham relied upon nature for the restoration of health. True, we still wait upon nature, but we also attack disease. We explore the cell for the germ; we isolate, locate, abort, eliminate the germ, which is present in each malady, and which affects, if it does not wholly cause it. It is evident that chemistry and bacteriology must here do far more than drugs. We can destroy the vitality of the comma bacillus, the milk or water-borne typhoid germ, the trichina of pork and many others, by simple heat. Other varieties we attack by chemical solvents, and by inoculations of their products, so called antitoxins.

It is true that in these, the closing years of the nineteenth century, a few deny the causative relationship of germs to disease, but, professionally speaking, these live in a past so remote that they need only be considered of archælogical interest. We will then start with the demonstrated fact that the infectious diseases are caused by micro-örganisms and study the relation of bacteria and bacterial products to disease.

It has not, as yet, been fully determined as to how bacteria, or germs, produce disease and cause death, though several theories have been advanced, a few of which I shall mention.

1. That of mechanical interference, that the germs blocked up the capillaries and small blood vessels, and emboli are formed. This theory has been almost abandoned.

2. That they cause disease and death by consuming the proteids of the body, and thus depriving the body of its vital source, as proteids are necessary to the building up of cells and micro örganisms feed upon proteids, but death occurs before a large amount of proteids is consumed and the symptoms are not those of general starvation.

3. That bacteria destroy the red blood corpuscles, but in some diseases they are not found in the blood at all, and their destruction has not been confirmed by microscopical examination.

4. The germ may, by its direct action, as a living ferment, or indirectly, through a soluble chemical ferment secreted by itself, split up into simple bodies some of the complex proteid constituents of the organism, among which there may be poisonous substances. According to this theory, the action would be similar to that by which the yeast plant breaks up sugar molecules into alcohol and carbonic acid gas.

5. A very plausible theory is that bacteria convert their food into a poisonous substance. It has been demonstrated that the pathogenic bacteria do elaborate poisons and that animals treated with these chemical products manifest the symptoms of the disease, and, in sufficently large doses, cause death and sometimes produce the same lesions as that caused by the germ itself. Such animals are found to be more or less protected from infection by the same poison which, in the first place, generated the fever, or, in other words, are rendered immune. Artificial immunity has been obtained also by the use of actual cultures of bacteria, by extracts of cultures, bacteria, etc., but the most satisfactory results obtained outside the laboratory are in diphtheria, and this was done in an entirely different direction, that is, by the use of the serum of animals artificially rendered immune to the disease. It has been shown that the serum of certain animals not only hinders the development of certain species of bacteria, but also appears to destroy them. Some observers are unwilling to admit that the bactericidal power is a biological property of the serum, but rather think it an accident; according to some due to the presence of carbonic acid; according to others, the simple phenomena of osmosis by which is produced a sudden transportation of the bacteria from one medium to another. The existence of the bactericidal power of serum, however, is certain, and has established the fact that the blood serum is not an inert material and will lead to important discoveries in serum therapeutics.

Behring, in following out his studies upon the bactericidal action of the blood, soon found himself blocked in his conclusions on account of the development and persistence of the bacterium at the point of inoculation in refractory animals. It was then a question as to whether the fluids acted upon the bacterium itself, or upon the products of their secretion by neutralizing or destroying them. From this, arose the discovery

of the antitoxic power of the fluids, and especially of the blood serum.

By mixing the toxins of tetanus or diphtheria with small quantities of the serum of an animal viccinated against these diseases, we can inject the toxins into susceptible animals without harm. The result is the same if the mixture be made in the body of the animal instead of the test tube, and, in fact, the result is the same if the toxin be injected at a different time and place from the serum, and will protect the animal against many times the ordinary fatal dose of the bacterial poison. From this, we are justifiable in the belief that the serum acts directly upon the microbic poison and destroys it, or, at least transforms it into an inoffensive substance. It has been ascertained that one c.c. of the serum of a horse vaccinated against tetanus was sufficient to neutralize in a test tube thirty times its volume of toxin. Where serum is injected into the body, the animal passes, without presenting the slightest symptoms from the susceptible to the refractory condition and resists the action of the virus to which it was susceptible to a few moments before. This condition passes away in a few days, but it is important as it can be used to prevent the spread of diseases in sudden outbreaks of epidemics.

The phenomena known as "Widal reaction" has justly given great hopes to the treatment of typhoid fever. It may be briefly described as follows: Add a certain proportion of blood serum from a patient suffering from well-developed typhoid fever to a bouillon culture, or watery emulsion of typhoid bacillus, and in from thirty minutes to several hours flocculi, or clumps, will have formed throughout the mixture and fallen to the bottom as a granular sediment, leaving the overlying fluid more or less clear. From that it was seen that the blood of a typhoid patient contained a substance which sickened and destroyed the motility of the bacilli. This caused many efforts to be put forth to obtain a typhoid antitoxin with very hopeful results. Dead cultures of typhoid bacilli grown in thymus bouillon have been used by E. Franket in the treatment of the disease in fifty cases with very satisfactory results. Some attempts have been made to treat typhoid patients by the use of serum derived from patients convalescent from typhoid fever.

In the so-called pyogenic affections such as puerperal fever,

erysipelas, certain acute abscesses, etc., a streptococcus is present. A number of experiments have been made upon the subject of this infection, and it has been found possible to render animals immune from this microbe and to develop an antitoxin in the serum at the same time. The application of anti-streptococcus serum to the treatment of diseases has been made in this country in septicæmia, malignant endocardetis, scarlet fever of septic type, and erysipelas with very encouraging results.

The possibilities of the utilization of this serum are great, seeing the wide range of septicæmic conditions and the tendency which so many forms of disease show to take on a septic character.

The observations of G. & F. Klemperer point to the development by the micrococcus of pneumonia of a septic poison, pneumotoxin, which in the tissues causes, by a reactive process, the development of its antagonist, or anti-pneumotoxin. It seems to me that these researches furnish a basis for a serum therapy, but no real advance has been made in this direction, though the serum of patients recovering from an attack of pneumonia has been injected into animals suffering with the disease with curative effects. The serum of rabbits, artificially rendered immune to the micrococcus pneumoniæ, has been used in man in a few cases of pneumonia with good results.

The treatment of tubercle by tuberculine injections has practically been abandoned; but the hope that some agent may yet be found which may confer immunity against the attacks of the bacillus of tubercle and act curatively upon those already infected, has by no means been abandoned. Quite recently Koch has advanced an improvement upon his tuberculine by which he has been able to render animals immune and improve tuberculous foci in those that have been infected.

General bleeding, though fallen into disuse on account of its abuse, is a very valuable therapeutic agent. If you will consult the most recent researches on bacteria and their products it would be found that bleeding is coming into use again as a means of removing poison from the body. There is certainly one condition in which it is very useful, whether it act by removing the poison or not, and, that is, in cases of coma due to kidney disease. In cases of uremic poisoning, when the patient

is comatose, you cannot do any harm by bleeding, and you will very likely do your patient a great deal of good. For my own part, I am inclined to believe that leeching, cupping, and bleeding are all, to a certain extent, forms of serum therapeutics; that, as a consequence of bleeding, we get a greatly increased transudation of juice from the tissues into the blood vessels. We thus alter the constitution of the circulating fluid, and thus are practically using serum therapeutics. We have not actually taken a bit of an organ or tissue, as when we heal myxœdema by introducing into the system the thyroid gland or its juice, but we have taken their juices from the various glands and tissues of the patient's body by drawing them into the partially emptied blood vessels. By getting those juices from the patient's organs into his blood, we have altered the composition of the circulating fluid and we are really trying a plan of serum therapeutics This is a subject that I think would well repay a great deal of research, for the uses of tissues, tissue juices, and serum therapeutics are just the beginning of a new era in the treatment of disease, and, when we understand the action and interaction of the various organs of the body upon one another, and how the removal of its juice from the one and its introduction into another will alter the physiology of the different organs, then we shall be able to use bleeding, not haphazard, but with our eyes open and knowing all about it, so that we shall avoid all of its dangers and gain all of its benefits.

Purging also tends to act as a process of serum therapeutics. You have on the passage of a purgative through the intestine, a quantity of fluid poured into the gut from its glands; but there is also a quantity of a different fluid going from these glands into the body, generally. At the same time, the purgative clears out the products formed by the innumerable bacilli that are present in the intestlne and which have been shown to produce fever. Is not this the real secret of the good results derived from the Woodbridge treatment of typhoid fever?

Today we expect to find each specific micro-organism producing its characteristic poison, or poisons, and much research is being made not only in the few diseases I have mentioned, but also in glanders, anthrax, tetanus, smallpox, and hydrophobia with very satisfactory results.

Then, when we see the strides made within the last few years

along this line, and the considerable reputation thyroid extract is gaining in the treatment of myxœdema and cretinism, the thymus in exophthalmic goitre, suprarenal extracts in Addison's disease, and the good results derived from the other glandular extracts of the body, may we not hope, with these great discoveries in serum and glandular therapy, that the day is not far distant when we will have a specific, both curative and preventive, for all infectious disease?

URIC ACID IN THE CAUSATION OF RETINAL AND CHOROIDAL DISEASE.

By Gaillard S. Tennent, M. D., Asheville, N. C.

IT is refreshing in these days when we hear so much of microbes and the germ theory, to turn our attention occasionally to subjects which are, as yet, free from their inroads. As a topic for study, uric acid is unique from this point of view, as well as from the fact that urea, its near relative and partner in the excretion of nitrogen, was the first animal substance produced artificially in the laboratory. As far as we know, its production is due to physiological processes, and its abnormal retention in the body is due to chemical changes alone.

The tendency to an abnormal retention in the blood of some of the uric acid, which should be wholly excreted by the kidneys, or, as is usually termed, the uric acid diathesis, or lithæmia, is a condition frequently observed. In fact it is of such common occurrence, that it is more often overlooked than otherwise in treating many obstinate cases of dyspepsia, headache and allied disorders. The principal reason for this failure to recognize its presence is the misconception of its causes and results. It is by no means dependent upon high living for its causation and it does not necessarily give rise to the ordinary symptoms of gout or rhematism.

Haig has proved both of these facts by a long series of carefully conducted experiments. (1) He regards migraine, gout and some forms of rheumatism, with their intermediate conditions, as manifestations of the presence in the blood and tissues of this active poison, which is the generally accepted theory. Its retention is due to decreased alkalinity of the blood, which may be brought about by other means than high living, notably, by acid indigestion, by inactivity of the skin, by continued exposure to a cold, damp, atmosphere, or by excessive use of coffee or tea. The most important results of its

retention are deposition of salts in the joints and other tissues, and, continuous, high arterial pressure as long as it is in the blood.

However, it is not in the scope of this paper to discuss the interesting process of uric acid retention or its relations to the various phenomena of gout and rheumatism. We shall content ourselves with regarding these well known symptoms as corroborative evidence in diagnosing lithæmic eye disease.

Many of the cases that come under our observation have originated in an atteck of acute rheumatism, a few come among those who suffer occasionally from true gout, but most of the occular disorders of this nature are found in those who are afflicted with socalled "chronic rheumatism," "rheumatic gout," or only a "gouty" or "rheumatic" tendency. Sometimes there is a suspicion of specific trouble, more or less remote, and often it is hard to obtain any definite history.

It is important to bear in mind the identity, or at least, the similarity of the processes at work in all these cases as well as in those of more obscure origin in making a prognosis.

All of the text books on opthalmology refer to gout and rheumatism as causative factors in disease, but pathological research has thus far been limited. Wagemann says that gout as a cause of eye disease has received but little attention in Germany. (2) English text books, owing to the prevalence of these disorders in England, usually discuss them at some length. Nettleship (3) refers to the uncertainty of differentiating gout from rheumatism in eye diseases, and mentions the frequency of "insidious forms of iritis" where the family history is the only evidence of the rheumatic or gouty origin. He also speaks of the general belief that the gouty, or those who inherit a gouty tendency are more liable than others to suffer from glaucoma.

Some very valuable information on the immediate subject of this discussion may be found in the report of investigations by C. S. Bull. (4) In his ten cases there were perceptible lesions of the vessels, and three autopsies revealed the presence of general sclerosis of the retinal and choroidal vessels.

Haig dwells upon the uniform increase of blood pressure induced by uric acid. Bull (4) says: "The influence of gout in the development of arteriosclerosis and endarteritis is now well

established. Arterial degeneration is hereditary in certain families, and signs of arteriosclerosis are very often the first symptoms of the hereditary malady." He also calls attention to the frequency with which these complications are found in atypical gout. There are, then, three distinct influences in the production of disease in the sensitive and vascular tunics of the eye, viz:

1st. The presence in the circulation and fluids of the *materies morbi.*

2nd. The temporary increase of blood pressure.

3rd. The high arterial pressure and sluggish venous circulation resulting from diseased vessels later on.

It can readily be seen how either of these factors, or, as is often the case, two of them acting together, may give rise to inflammatory and degenerative changes in the eye, especially when there is an inherited weakness in that direction.

Thus, the presence of the uric acid, with its correspondingly high arterial pressure, is accountable for a large class of cases, including what Wagenmann (5) calls, "seroplastic inflammation, with or without perceptible excretion of uric acid,"—"with a deposit between choroid and retina."

This is common at all ages and may assume a variety of forms, usually, however, it begins as a recurrent, serous or plastic iritis, or a mild and painless irido-cyclitis of serous type, which is only noticed at first on account of suddenly failing sight. Upon examination in the early stages, the iris will be found slightly discolored, the pupils fixed, the acqueous humor a little turbid. There will be a few fine opacities in the anterior portion of the vitreous, and often a triangular patch of punctate opacities on the posterior surface of the cornea.

Many cases recover without more serious complications; some cases of cyclitis eventually result in glaucoma, while a number of cases originating in either iritis or cyclitis finally merge into chronic choroiditis. The opacities in the vitreous become more noticeable, the tension of the ball is reduced, there are sensations of light and deepseated pain, after which recovery with useful vision is only a possibility. The usual course is a continuation of remissions and exacerbations through months or years, finally resulting in recovery with disseminated patches of choroidal atrophy and very little or no vision, or in suppura-

tion with its disastrous consequences. Though the influence of uric acid retention in causing these troubles may be undoubted on account of the existence of other symptoms of its presence, the pathological processes taking place in their early stages are very obscure, and there are no characteristics anatomical or clinical, to distinguish them from the cyclitis and choroiditis of different origin.

A second class of cases presents symptoms of a different nature and of less severity. The origin of this form of disease, which may be called central choroi-retinitis, is schlerosis of the retinal or choroidal vessels in the macular region, as in the cases recorded by Bull.

According to this author, the retinal disease first shows itself in the formative period of the arteriosclerosis. The endarteritis usually attacks the intima first, causing a new growth of connective tissue or a constriction of the calibre of the vessel; the muscular coat being next involved, loses its elasticity and becomes irregularly dilated, giving rise to hemorrhages into the retina. The same processes taking place in the veins, give rise to œdema. The varicose dilations, the hæmorrhages, which may vary in extent, the œdema and more or less deep haze, can all be readily detected with the opthalmoscope in the early stages. After awhile the characteristic patches of yellowish exudation make their appearance around the macular region, somewhat resembling the picture seen in albuminuric retinitis. Wagenmann calls this an "inorganic deposit," but the appearance is probably due to the large granular cells found by Bull in the nerve fiber layer, similar, from his description, to those observed by Anmann (6) in retinitis circinati, to which he ascribes the white patches of that disease. The last opthalmoscopic picture is that of central choroidal atrophy and the final result is often cataract or vitreous degeneration.

The symptoms are gradually or suddenly increasing dimness of vision attended with more or less photophobia and periods of severe pain. The patient complains of sensitive eyes which seem to be constantly on the verge of an acute attack. In the course of several years, central vision is almost or completely lost, though in the periphery of the field it is always comparatively good, and total blindness never comes from this cause alone.

The third and last variety of uveal disease which may cause serious trouble is not attended by any recognizable symptoms of inflammation. For this reason it is often completely ignored in accounting for the development of cataract, glaucoma and inverse astigmatism so commonly seen a few years after the advent of presbyopia.

It is probably a mild angiosclerosis, more pronounced in the ciliary region than in the choroid proper. The signs of inflammation are wanting because here there are no terminal vessels without anastomosis as there are in the macular region, and consequently, no hæmorrhages and exudations from obstruction.

Schoen, of Leipsic, (7) describes the condition as choroiretinitis of the ciliary region, and lays great stress on the agony of uncorrected refractive errors in its etiology. He states that the results are inverse astigmatism and equatorial cataract. What part angiosclerosis actually plays in its causation can only be surmised from the known facts. It is frequently seen in connection with gouty and rheumatic symptoms; it develops at a time of life when sclerosis from uric acid is common, and angiosclerosis is known to produce elsewhere results similar to the process he describes.

The astigmatism is produced by displacement of the ciliary body, slackening of the zonula fibres and the consequent tilting of the lens. In these cases the opthalmometer invariably shows less astigmatism than is found by other methods of examination, proving that it is due to a change in the shape or position of the lens, and that may become manifest at this age.

But the chief interest that attaches itself to these obscure and mild troubles is due to the frequency with which they are followed by glaucoma and cataract. Unfortunately, it is in the insidious cases that these deplorable results are common and their causes are often to be sought in the sclerosis which affects the sensitive vessels of the uveal tract at the same time, if not before, it attacks the whole circulatory system.

Ritchie, of Washington, (8) holds that, "every form of glaucoma is owing primarily to gout (or goutiness) or to acquired syphilis." It would be out of place here to attempt discussion of the causation of glaucoma, but, it must be said in justice to this theory, that it is quite plausible and as probable as any of

the others. The increased extra ocular tension, the sluggish circulation and vascular degeneration of the choroid, inclosed in the unyielding sclerotic, and the *materies peccans* in its fluids, certainly favor increase of intraocular tension. When once this has been brought about, the future progress of glaucoma is automatic.

Indirectly, the same processes are instrumental in the production of cataract, as may be seen from the following facts: 1st. It is necessary in many or all instances to assume some cause for cataract other than mere old age. 2nd. Arteriosclerosis is common at the cataractous age, and is known to precede it in many cases of central choroi-retinitis. 3rd. Any vascular degeneration of the choroid must necessarily interfere with the nutrition of the lens.

The following conclusions are drawn from this brief study of the subject:

1st. The uric acid diathesis frequently manifests itself in disease of the sensitive and vascular tunics of the eye.

2nd. It often does so when no other symptoms of its presence have been detected.

3rd. Three agencies are at work in the production of the trouble; the *materies morbi*, the increased blood pressure and the final angiosclerosis.

4th. The cases originating in the iris and ciliary region are apt to merge into disseminated choroiditis and terminate in blindness.

5th. The disease originating in the muscular region of the choroid or retina finally destroys central vision and is often followed by cataract or vitreous degeneration.

6th The influence of lithemia is often exerted without producing easily recognizable lesions, in which case its results may be inverse astigmatism, glaucoma or cataract.

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1. Haig: "Uric Acid in the Causation of Disease." Wood's Medical and Surgical Monographs, Vol. V.
2. Wagenmann: Graef's Archives, Vol. XLIII., p. 82.
3. Nettleship: "Diseases of the Eye." 1890, p. 445.
4. Bull: Trans. of Fourth Congress of Am. Phys. and Surg. 1897, p. 4.
4. Bull: Trans. Am. Opthalmological Soc., 1893.
5. Wagenmann: Deutsche med. Wochenschrift, 1896, No. 36,
6. Anmann: Archives of Opthalmology, Vol. XXXII, p. 203.
7. Schoen: Archives of Opthalmology, German Ed., Vol. XXX.
8. Richie: Medical News, May 8th, 1897.

A CASE OF OSTEOSARCOMA TREATED WITH THE TOXINES OF ERYSIPELAS AND BACILLUS PRODIGIOSUS.

By J. C. Walton, M. D., Reidsville, N. C.

THERE is probably no subject of more interest to the surgeon than the treatment of malignant growths. In view of the skepticism of any innovation in the treatment of these apparently hopeless cases, for disguise it as we may, it is unfortunately too true that hopeless recurrence is the fate of the greater number of those who suffer from sarcoma and carcinoma, whether they are operated upon or not.

Since the seventeenth century it has been a demonstrated fact that not only malignant growths, but chronic ulcers of the skin, lupus nodules, syphilitic sores, and allied affections, occasionally disappear with great rapidity after an attack of erysipelas, and whilst the number of accurately recorded cases is not a large one, yet it is sufficient to demonstrate the truth of the proposition, that it is not a mere coincidence.

Miss H—— consulted me in April, 1895, for an enlargment of the muscles of the calf of the leg, which gave her some pain and a great deal of uneasiness, being unable to walk or bear any weight upon that limb. In March, 1894, complained of pain and soreness in the leg, and in June following noticed a small swelling in the calf of the leg, with sharp lancinating pains. The swelling gradually increased in size, and the pain continued to grow worse until she was unable to bear any weight whatever upon the limb. The swelling was confined principally to the central portion of the calf of the leg, and was a large, hard, smooth globular tumor, with distended veins over its surface, the limb measuring more than two inches more than the other limb, the joints not being involved. Patient's general health, with the exception of an attack of rheumatism when a child, had always been good up to about a year before the appearance

of this tumor, but since her health failed rapidly from pain, inability to sleep, anorexia, etc. She had previously consulted a noted Virginia surgeon who pronounced it sarcoma and advised amputation at the lower third of the thigh. I concurred in the diagnosis, after seeing the case with several experienced surgeons, who agreed in the diagnosis, we agreeing that it was a case of central sarcoma of bone, myeloid variety. These tumors take their origin from the medullary cavity of the bone, and grow slowly on account of the mechanical obstruction, which is offered by the bone. After a while the tumor breaks through the bone by pressure. The patient declined an operation. No other course being left, I commenced on Coley's treatment of the mixed toxins of the streptococcus of erysipelas and the bacillus prodigiosus. On the 18th of May, 1895, I commenced treatment by injecting the fluid deeply into the tumor, commencing with one drop, increasing to four, but could never get beyond that point. The injections were followed by severe chills and high fever, the temperature frequently running up to 104 to 106 with intense nausea and vomiting, weak, rapid pulse, muscular twitching, and more or less collapse. Kept up the injections until August 1st, she being unable to stand more than two a week. Under this treatment the tumor became circumscribed, with redness of skin, pain, fever, etc. Her general condition gradually grew worse under this treatment. The tumor first began to soften in July, with slight discharge. On December 13th, cut down on the tumor and curetted away a part of the mass. Owing to the hardness it was impossible to remove much of it. The tumor being very vascular the hemorrhage was profuse. In the middle of December did a second operation, and January, 1896, did the third and last operation, removing, at this time, a large quantity of marrow-like, gelatinous substance and a large portion of the shaft of the fibula. A week after this operation, a secondary hemorrhage occurred, which came very near proving fatal before my arrival. A few days after this, I removed a hard, black looking substance as large as a hen's egg, which was very offensive. From this time on patient's health rapidly improved, the cavity soon filled with healthy tissue and in a short time she was discharged as cured. At present she is in good health and is able to walk without a cane, and suffers no inconvenience, except a little weakness in

the limb from loss of bone. Part presents a normal appearance.

The most eminent authority on pathological surgery in this country, Nicolas Senn, asserts that sarcoma of bone is met with clinically, more frequently than sarcoma of any other organ or tissue. One of the distinctive features between sarcoma and benign tumors of bone, is the local extension from tissue to tissue irrespective of its anatomical structure; the joints are not usually affected in sarcoma, while in tuberculosis the epiphyseal extremities are affected and the adjacent joints frequently. The treatment of inoperable sarcoma by this method should be encouraged and persistently carried out, and he emphasizes that it would be advisable to treat such cases after operation to prevent recurrence. It is impossible to explain satisfactorily the origin of the tumor from the existing normal connective tissue, without assuming the presence of a localized specific microbic cause.

Moullin, an eminent English author and surgeon, in a recent paper in the *Lancet*, asserts that the treatment by Coley's fluid holds out the greatest amount of hope in the treatment of sarcomatous growths. He reports ten cases treated by this method. Three cured; two improved; one discontinued treatment; two no effect; and two deaths. And Moullin referring to Coley's cases says that they have been thoroughly verified and authenticated, and that they are neither few or doubtful. It is no small achievement to save the lives of nine patients who have been given up hopeless and that one single positive result is worth any amount of negations, and that there is no other method of treatment, except infection with the streptococcus of erysipelas itself, of which this can be said. Dr. Coley reports ninety cases: Thirteen entirely disappeared; nine of these no recurrence, from two to four years since treatment; thirty three improved; forty-five showed no change; and three died. The diagnosis was verified by microscopic examination in all these cases except one. They were all inoperable, and many had been given up as absolutely hopeless. Coley's method is to begin with a small dose, 1 m., gradually increasing until the reaction reaches 103 or 104° F. The temperature has been the chief guide in regulating the dose and very little benefit has been noted in cases in which no reaction was obtained. The results vary greatly with the strength or the preparation, the most virulent cultures giving the best results.

Wyeth says that the prognosis in erysipelas is favorable in the vast majority of cases and this should encourage us in advising artificial inoculation of this disease in certain malignant growths as sarcoma in which *without doubt*, cures have been effected by the institution of acute septic infection.

DISCUSSION.

Dr. Robinson:—I had an opportunity to see this case, and I am satisfied that there could be no doubt in my mind that it was sarcoma. When we are cognizant of the fact of how frequently after an operation there is a return of this disease, we can well pause to consider this means of treatment. I was treating at the same time that I saw this case a case of sarcoma of the omentum, and after two months treatment it entirely disappeared. I know from the history of Dr. Walton's case, that it diminished progressively from the time the treatment commenced, though the result did not occur until a long time afterwards when the bone was removed This would indicate that there is hope from this treatment. In regard to the danger of sepsis, I would like to mention a case I saw of cancer in which we had free suppuration, sepsis, septic diarrhœa, inability to retain food, and the patient almost pulseless, relieved by antistreptococcus serum. In the remarks this morning brought out on serum, I want to say that I have no doubt that in affections in which we have sepsis, we would get valuable aid from antistreptococcus serum. I think this matter is one that will bear strong discussion. The thanks of the Society are due Dr. Walton for his paper.

Dr. Jewett:—We must acknowledge from the cases Dr. Coley and others have reported that there is some value in the use of the toxins, though there are a great many of the foremost surgeons who have never had any good results from the practice. We have to accept what these men tell us, for either there is a mistaken diagnosis or else they are deliberately falsifying, neither of which I consider probable. I have used these toxins in a case of sarcoma of the lower maxilla, which was operated on twice by Dr. Halstead. He placed little confidence in the use of the toxins, but I saw Dr. Coley, and while he did not offer a great deal of hope, at the same time suggested that the toxins be used. I had him to prepare a vial of the toxins for me, and I commenced the treatment with the injection of a half minim. This was followed after a few minutes by a very severe chill, and the constitutional symptoms were very marked and the suffering very great. The temperature went up to 103 with violent vomiting and purging. After a couple of days I increased the dose to one minim. The reaction was just as marked. I carried it up as high as three minims in a fortnight

and saw no evidence of any result, except probably a more rapid growth of the tumor, with a great deal of discomfort to the patient, and I discontinued it. I should hate to try it again unless I had a very hopeless case.

Dr. Robinson:—The temperature almost invariably goes up to 104. The inflammatory conditions may have accounted for the temporary enlargement of the tumor. You will have to continue it to get results.

Dr. Minor:—I would like to ask the doctor whether before his injections he determined the fact microscopically, whether he had a round cell or a spindle cell tumor. I think it is especially advocated in short spindle cell tumors, and it is not claimed to do much in the other,

Dr. Jewett:—It was a large round cell sarcoma.

Dr. Walton:—I feel very thankful for the discussion of the paper, and as the doctor has just remarked, Dr. Coley does not speak well of the toxins in the round cell variety. The best results he had were with spindle cells. In this case of mine, the temperature ran as high as 106, and the symptoms were alarming, but I persisted, and ultimately cured the patient. If I had become discouraged, this would have been a failure. I attribute my success to persistency. I kept hammering away at it and hoping it would get better, and finally it did come around all right. It undoubtedly has systemic effects, and depresses the patient very much. In my case the symptoms of collapse were sometimes striking.

ANNUAL REPORT OF THE SECRETARY OF THE NORTH CAROLINA BOARD OF HEALTH—1897–'98.

By Richard H. Lewis, M. D., Raleigh, N. C.

THE past year has of necessity been less active than the years immediately preceding. Our work being largely educational, prosecuted chiefly by the free distribution among the people of health pamphlets on sanitary subjects, has been—temporarily we hope—suspended for want of funds to pay for the printing. To meet this difficulty as far as possible it will be remembered that the Board ordered at its last annual meeting at Morehead in June last, that the character of the *Monthly Bulletin* be somewhat changed by omitting certain statistical tables and inserting in lieu thereof reading matter that might be of more interest and profit. Not being able to mail a copy to everybody it was thought best as the physicians, especially those living in the country, largely control public sentiment in all medical and kindred matters, to send it free of charge to every registered physician in the State. Owing to the inability in spite of earnest efforts to secure a complete list of the physicians the execution of this order was postponed until the September issue. Since that time the *Bulletin* has been mailed regularly to every doctor whose name was on the Register a year ago. In this connection it would be proper to allude to the complaints generally made by county superintendents of failure on the part of the physicians to report to them and the plan adopted to overcome this apparent indifference. Hoping that the failure to report was more the result of thoughtlessness or forgetfulness rather than actual indifference, and that a monthly reminder might help matters, I have since the November issue printed on the last page of the *Bulletin* the usual blank with a request to the reader to fill it out and and mail it to his county superintendent by the 3rd of the month for use in making

up his report to me. While it sometimes happens owing to press of work with the State printer that the *Bulletin* does not reach its destination as early as it should, it doubtless generally does on or before the 3rd, but we fear that it has brought no material improvement.

INSPECTION OF WATER SUPPLIES.

Believing that the mere analysis of the waters of the public supplies of the State ordered by the Board at the Winston meeting two years ago had been of benefit by the intimation it conveyed to the water companies that some one had an eye on them it was decided at the Morehead meeting to repeat the work, but more thoroughly. The plan first adopted of having the sample of water taken and shipped by the local health officer having been found in more than one instance unsatisfactory, and an inspection of the works and watersheds by a responsible and disinterested person being deemed desirable Col. A. W. Shaffer, the Engineer of the Board, was requested to make such inspections, and while doing so to take and ship in a proper manner samples of the various waters to the State Experiment Station for a chemical, and to the bacteriologists of the Board for a biological analysis Col. Shaffer did this work in his usual thorough and painstaking manner, and I regret to say, found not a few things deserving of criticism. In the course of his examinations he made it a point to learn water rates. He found that they were from 10 to 75 cents per 1,000 gallons to small consumers, with, in some cases, a required minimum consumption amounting to not less than $1.00 per month. This, of course, means prohibition of the use of the public supply to the poor except where public fountains are provided. Although these supplies in our State are not as a rule, first class, the water in nearly every instance is safer than that of the wells and it should be within the reach of all. If there is anything more than another except air, to which every man is entitled, it is an abundance of good water. I doubt if the Board could do a better work than to inaugurate and prosecute a crusade for free water—at any rate, water as cheap as possible—for those of our people in the larger towns not blessed with an abundance of this world's goods.

YELLOW FEVER

The epidemic of this disease occurring last Summer and Fall

on the Gulf while, fortunately, it did not extend to our borders, was a constant source of anxiety to the authorities of our city of Wilmington, which was liable to infection. During the prevalence of the epidemic the following correspondence which explains itself occurred:

RALEIGH, N. C., Sept. 22, 1897.

Dr. R. H. Lewis, Secretary State Board of Health, Raleigh, N. C.:

DEAR SIR—I am directed by the Governor to enclose you this letter from Surgeon-General Williams for your consideration and advice in the matter.

The Governor would suggest that while this invitation, if extended, might be productive of inducing some men of means to make their homes in Western Carolina, it might also result in bringing into our State large numbers of people without the means of subsistence while here and whose expenses in returning might have to be paid by our people.

Very truly yours,

J. E. ALEXANDER,
Private Secretary.

ASHEVILLE, N. C., Sept. 18, 1897.

His Excellency, Daniel L. Russell, Governor:

DEAR SIR—If it meet with your approbation, I should be pleased to telegraph United States Marine Surgeon-General Wyman offering the mountain plateau of Western North Carolina as a refuge for the refugees from the fever stricken districts.

Very respectfully your obedient servant,

JOHN H. WILLIAMS,
Surgeon General N C. S. G.

RALEIGH, N. C., Sept. 22, 1897.

His Excellency, D. L. Russell, Governor of North Carolina:

DEAR SIR—The letter of Surgeon-General Williams asking your approbation of the extension of an invitation to persons in the fever infected districts of the South to take refuge on "the mountain plateau of Western North Carolina," submitted to me for my "consideration and advice in the matter" was received this p. m.

Having duly considered the subject, I would respectfully say, in my opinion it would be unwise to extend the invitation. While I do not think that at this season of the year and at the elevation of our mountain plateau there would be any appreciable danger of conveying the disease of yellow fever to the residents, I do believe that it would be practically impossible to detain the refugees upon the plateau sufficiently long to prove that they were not infected, and that therefore there would be a distinct risk of some of them going to certain sections of

our State that are susceptible to the disease—notably our city of Wilmington—and sowing the seeds of a serious epidemic. One section of the State might have to pay very dearly for the advertisement of another—to say nothing of the economical suggestion you make that a number of helpless people might have to be cared for at our expense.

The suggestion of Dr. Williams, looked at from the point of the *whole* State, is, to my mind, clearly unwise.

Very respetfully yours,

RICHARD H. LEWIS,
Secretary.

The principal lesson drawn from the epidemic was the unsatisfactory character of our present quarantine arrangements. The friction developed between the United States Marine Hospital Service and the State quarantine officials was such as to satisfy nearly every one except some of the said State officials that National supervision and control of our maritime and inter-state quarantine is greatly to be desired. This being an extremely important matter and the President of the Board, a resident of our principal seaport and for many years on the Quarantine Board of the same, holding identical views with myself on the subject, I thought it well in two numbers of the *Bulletin* to advocate those views, viz. national quarantine by the Marine Hospital Service. The past winter having been a very mild one—not sufficiently cold perhaps to kill the germs—it is to be feared that the disease may reappear with hot weather. Then, too, the communication with Cuba, that may be brought about war is not reassuring. But, if, as a result of the war, the city of Havana can be put under the control of those who will enforce the proper sanitary regulations, its present menacing character as the breeding ground par-excellence of this disease, may be abolished.

SMALLPOX.

In the December *Bulletin* attention was called to the prevalence of smallpox in South Carolina and Georgia near our border, and Superintendents of those counties near the infected districts were exhorted to to make the most of any scare that might exist among their people and vaccinate as many of them as possible.

The first case occurring in our State was reported in Wilming-

ton on February 12th, in the person of a negro coming from South Carolina. In a few days another case, also a negro from South Carolina, occurred. Both recovered. In Charlotte there have been four cases—all negroes—with two deaths, origin of the disease also South Carolina. A young man from Georgia introduced the disease into his family in Clay county. Every member of the family to the number of ten including himself, had it but none died. On March 2, a case in the person of a negro child from Alabama was reported near Gibsonville, in Alamance. On March 30th I was notified by the Superintendent of Health of a case in Salisbury; origin, Knoxville, Tenn. On April 14th the Health Officer of Asheville notified me of a case there in a negro man ten days from Jacksonville, Fla. As there seems to have been no smallpox in that city he probably contracted it enroute through South Carolina. A few days later another case was reported from Asheville—a negro woman who, in the eruptive stage of the disease, had fled from South Carolina for fear of the pest house, and had been in hiding several days before being discovered. There have been altogether, 21 cases of smallpox in North Carolina since February 12th—10 white and 11 colored, with two deaths among the latter.

With the exception of its extention to members of the immediate family of one case in Charlotte and of the Clay county case, there was no spread of the disease whatever. This speaks well for the faithfulness and efficiency of those having the responsibility of its prevention, and is very gratifying. But at the same time we should return thanks to the kind Providence that rules the affairs of men, for in some instances the authorities owing to the determined, not to say violent, resistance of the people—the ignorant classes—were not able, or at any rate failed, to carry out the precautionary measures required; as for example—in Wilmington, where the compulsory vaccination ordered was so violently resisted by the negroes as to cause the abandonment of the attempt. In Charlotte, however, the authorities were more successful. Acting Mayor Brevard sent a man who refused to be vaccinated to jail, and in consequence, and to other reasons, 17,000 it is estimated, were vaccinated. The unreasoning prejudice of ignorance is extremely difficult to meet, and sometimes requires a resort to methods that are very

obnoxious to Americans. So we should make all due allowances for such failures.

HEALTH CONFERENCE.

The usual annual health conference with the people was held in Goldsboro on October 14th. An excellent programme was prepared, but owing to the unavoidable absence of several of those who had promised papers, it was not as full as usual. Notwithstanding this and the rivalry of a popular theatrical troupe, the attendance and interest shown were gratifying, and we were assured that it had done good. Our former associate, Dr. Venable, kindly helped us out most materially with a valuable and interesting illustrated talk on "Bread."

FORMALDEHYDE DISINFECTION.

The importance of disinfection, thorough disinfection, in sanitation being so overwhelming, and believing disinfection by formaldehyde gas to be practically the best method, I devoted the November issue of the *Bulletin* to that subject. Every physician in the State received a copy in regular course and I hope the interest of many was quickened, but knowing how often we are prevented from doing what we like for want of the necessary materials, I thought it well to send a copy to all the druggists in the State whose address could be obtained—more than 300—together with a letter requesting them to keep in stock the necessary apparatus for this method of disinfection, and asking them to let the public, and especially physicians, know that they had the apparatus.

PURE FOOD AND DRUG CONGRESS.

In obedience to orders from the President of the Board I attended the meeting of the above in Washington, March 2-4. A large number of delegates representing practically every interest involved were present, and seemed to be much in earnest. The Pure Food bill which had already been introduced in the House by Mr. Brosius, of Pennsylvania, was amended by the Congress. A Committee was appointed to work for it, and, but for the war with Spain, some much-needed legislation on this line might have been obtained.

COUNTY SUPERINTENDENTS OF HEALTH.

It is with much regret that I have to announce the failure of ten

counties to elect superintendents since the power to elect was transferred by the last Legislature from the County Board of Health to the Board of County Commissioners. This is very discouraging. It is a regression that is to be deplored. As the election, under the amended law takes place annually on the first Monday in May I mailed to the Boards of Commissioners referred to the following letter:

RALEIGH, April 27, 1898.

Board of County Commissioners:

GENTLEMEN—Not having any reports from your County Superintendent of Health for some time I fear that you overlooked his election. I would respectfully call your attention to the fact that the Law (Chapter 214 Laws of 1893) is mandatory on the subject. As amended by the Legislature of 1897 the Superintendent "*shall* be chosen by the Board of County Commissioners of each county annually on the first Monday in May of each year, and the said Board of Commissioners shall fix the compensation of said County Superintendent of Health."

It is very important to the health interests of the people that there should be such an official in each county (it being another name for county physician) and inasmuch as your honorable Board has absolute control of the selection of the officer and of his remuneration, I hope you will comply with the law and elect a Superintendent on Monday next. Please have your Secretary send me his name and address, and oblige,

Yours truly,

RICHARD H. LEWIS, M. D.,
Secretary.

In conclusion, I feel it my duty once more, to call upon the members of the Society and of the profession of the State in general, to lend us their invaluable aid in advancing our work. That work is, and must be for many years to come, chiefly educational. As intimated in the beginning of this Report, in all medical and sanitary matters there is no influence comparable to that of the family physician. If every physician would make it his business to insist on his patients' carrying out the ordinary sanitary precautions, the result in one year's time would be very great. Gentlemen, we count on your help in this glorious work of preventing disease and saving life.

CONSTITUTION.

ARTICLE I.

TITLE OF THE SOCIETY.

The name and title of this Society shall be "The Medical Society of the State of North Carolina."

ARTICLE II.

OBJECTS OF THE SOCIETY.

The objects of this Society shall be the advancement of medical knowledge, the elevation of professional character, and the promotion of all measures of a professional nature that are adapted to the relief of suffering humanity, and to improve the health and protect the lives of the community.

ARTICLE III.

MEMBERS OF THE SOCIETY.

SECTION 1. This Society shall consist of Active and Honorary members, and Honorary Fellows.

SEC. 2. The Active members shall consist of such regular physicians as have complied, or shall comply with the laws of the State, ratified February 28, 1889, and shall receive the approval of the Committee on credentials and a two-thirds vote of the members present at the meeting at which their applications for membership are presented. They shall be required to sign the Constitution and By-Laws of the Society, pay an initiation fee of five dollars, and shall be liable for such dues for defraying the expenses of the Society as the Society may, from year to year, agree upon.

SEC. 3. The Honorary members shall consist of such regular physicians as have won distinction by their contributions to medical science; those elderly physicians who, prior to their re-

tirement from practice, have displayed a proper interest in the welfare of this Society, or who, by their example, have reflected credit and honor upon the profession. They must receive a two-thirds vote of the members present at the meeting at which their names are presented for election. They shall be exempt from all dues and fines and shall be entitled to all the privileges of the Society except the right to vote and hold office.

SEC. 4 The Honorary fellows shall consist of such physicians as have been members of this Society for thirty years, and whose dues have been paid during that time. They shall receive a two thirds vote of the members present at the meeting at which their names are proposed for promotion. They shall be exempt from all dues and fines and shall be entitled to all the privileges enjoyed by active members in good standing.

ARTICLE IV.

OF THE OFFICERS.

SECTION 1. The officers of this Society shall be a President, Four Vice Presidents, a Corresponding and Recording Secretary and a Treasurer.

SEC. 2. They shall be elected by ballot, on the afternoon of the second day of the meeting, a plurality of votes cast being sufficient for electiou, and shall serve for one year, except the Secretary and the Treasurer, who may serve for three years, or until his successor is elected.

SEC. 3. Any nominee for the office of President shall have been an active member of the Society for five years, including the year of his election, shall have attended two or three meetings immediately preceding his nomination, including the meeting at which he is nominated; and shall be a member in good standing at the time of his nomination.

ARTICLE V.

DUTIES OF THE OFFICERS.

SECTION 1. The President shall preside at the meetings, preserve order and perform such other duties as pertain to his office. He shall not be eligible for a second term.

SEC. 2. The Vice-Presidents, in the order of their rank, shall

assist the President in the performance of his duties, and during his absence, or at his request, shall officiate in his place. They shall not be eligible to two terms in succession.

SEC. 3. The Corresponding and Recording Secretary shall conduct the correspondence of the Society, and shall be the custodian of all papers belonging to the Society, except such as appertain to the Treasurer. He shall keep correct minutes of the proceedings of the Society, and shall place them in the hands of the Publication Committee within thirty days after the adjournment of the Society. He shall advertise in two of the leading papers of the State a month in advance all meetings of the Society; and shall, at the same time, mail to each member a notice of the time and place of the meeting, and shall perform all such other duties as usually appertain to his office. He shall receive such compensation as the Society may, from year to year, agree upon.

SEC. 4. The Treasures shall receive all monies belonging to the Society, and disburse them as directed, preserving vouchers for the same. He shall present annually a statement of the finances of the Society, which shall be referred to a committee of three members, who shall admit the same and report to the Society. He shall receive such compensation as the Society may, from year to year, agree upon.

ARTICLE VI.

OF THE BOARD OF MEDICAL EXAMINERS.

SECTION 1. The members of the Board of Medical Examiners shall be elected by ballot for a term of six years, a majority of the votes cast being necessary to a choice. The election shall be held at 10 o'clock a. m., on the second day of the annual meeting, and the balloting shall continue until the entire number of seven are elected.

NOTE.—In order to accomplish the change from the present method of electing a portion of the Board every two years to that of electing the whole number at one time without curtailing the term of office of those already elected, it is decreed that the two members to be elected in 1898 be elected for four (4) years and the two members to be elected in 1900, for two (2) years after which this note having served its purpose shall be

considered as repealed without further action on the part of the Society.

SEC. 2. A vacancy occurring from any cause other than expiration of term of office, shall be filled by the Board or a quorum thereof.

ARTICLE VII.

OF COMMITTEES AND THEIR DUTIES.

SECTION 1. A committee of three members to be known as the *Committee on Credentials* shall be appointed by the President at the morning session of the first day of each meeting. Their duty shall be to investigate the character and standing of all applicants for membership in the Society, and receive the credentials of any delegates from other State or District Societies, reporting to the Society the names of such physicians as they think proper. They may ask for instructions from the Society in any doubtful case. The report shall be in order at any hour during the session.

SEC. 2. A *Committee on Finance*, to consist of three members, shall be appointed by the President at the morning session of the first day of each meeting. They shall examine the accounts of the Treasurer and report to the Society, making suggestions as to the amount of assessments for the coming year, the remuneration of the Secretary and the Treasurer and such other suggestions concerning the finances of the Society as they may think proper.

SEC. 3. A *Committee on Nominations*, to consist of five members, shall be appointed by the President at the morning session of the second day of each meeting. They shall nominate an *Orator*, an *Essayist*, a *Leader of Debate*, a *Committee on Publication*, an *Obituary Committee*, Delegates to the American Medical Association, the Virginia Medical Association, the South Carolina Medical Association, and such other associations as the Society may determine, all to serve one year; also a *Board of Censors*, to consist of three members and to serve three years.

SEC. 4. The *Board of Censors* shall investigate the professional status of any member of the Society which shall be called in question and presented to them by charges and specifications. Upon the presentation of such charges and specifications they

shall organize a medical court, before which the case shall be tried: *Provided*, however, that such Board of Censors shall be empowered to reconcile differences between members before going into a trial of the case. Should a case come to trial they shall make a report of their investigation to the Society, with such recommendation as they deem necessary and proper.

ARTICLE VIII.

OF THE SECTIONS AND VOLUNTARY COMMUNICATIONS.

SECTION. 1. The newly installed President shall, at the last session of each meeting, appoint a member to serve as Chairman of each of the following sections, to-wit: Anatomy and Surgery, Therapeutics and Practice of Medicine, Physiology and Materia Medica, Obstetrics, Gynecology, Medical Jurisprudence and State Medicine, Pathology and Microscopy.

SEC. 2. At any time after the meeting the Chairman of each section may appoint three such members as he may select as his assistants to work up such items as he may designate, confining himself to the general advancement in his section.

SEC. 3. The Chairman of sections shall send into the Secretary, not later than thirty days previous to each meeting of the Society, the titles of papers to be presented by themselves and their assistants to be used by the Secretary in making a programme for the meeting.

SEC. 4. No paper shall be read before the Society unless the author be present, unless his absence be due to some unavoidable circumstances. A paper presented by proxy may be referred to the Committee on Publication.

SEC. 5. No paper shall be referred to the Committee on Publication until it has been placed in the hands of the Secretary; and the Secretary shall not return any paper accepted by the Society without the consent of the Society, and then he shall take a receipt for the same.

SEC. 6. No paper shall be received by or read before this Society that has been presented to any other Society, or that has been offered for publication in any journal; and in the case of any paper accepted the author is supposed to have invested with the Society all rights to its ownership.

SEC. 7. No paper shall be published in the Transactions of

this Society unless approved by the Committee on Publication; and any paper rejected by said committee shall be returned to the author through the Secretary of the Society.

SEC. 8. It is to be understood that the Society is not to be considered as endorsing all the views and opinions advanced by the authors of papers published in the Transactions of the Society.

ARTICLE IX.

OF THE FUNDS.

SECTION 1. Funds for defraying the expenses of the Society shall be raised by annual assessments on the active members.

SEC. 2. Each active member shall, after being duly elected and signing the Constitution, pay the sum of five dollars as an admission fee, and be subject to the annual assessment of the Society, except for the year of his admission.

SEC. 3. Should an active member fail to pay the annual assessment two years in succession, he shall be notified by the Treasurer of his delinquency, and if, after this notice, he does not pay his arrearage within sixty days, the Treasurer shall send his name to the Secretary and the member shall not be entitled to receive the Transactions until all dues are paid.

SEC. 4. Should a member be in arrears for four years and fail to pay after due notice from the Treasurer, his name shall be dropped. *Provided*, he may be re-instated at any meeting after endorsement by the Committee on Credentials, and on the payment of five dollars; and so retain his place on the roll as formerly. But this payment shall not entitle the member to receive the volumes of the Transactions that he has forfeited.

ARTICLE X.

MEETINGS OF THE SOCIETY.

The Society shall hold its meetings annually. The time and place of meeting shall be determined for each succeeding year by a vote of the Society.

ARTICLE XI.

OF THE CODE OF ETHICS.

The Society adopts, as a part of its regulations, that part of the Code of Ethics of the American Medical Association which is published by its order.

ARTICLE XII.

PROVISION FOR AMENDMENTS.

Any proposition for amending this Constitution shall be presented in writing and shall lay over to be acted upon at the succeeding meeting of the Society. If it receives a majority of the votes cast it shall be adopted.

BY-LAWS.

OF THE ORDER OF BUSINESS.

1.—The President, or, in his absence, one of the Vice-Presidents in the order of their rank, shall call the Society to order, or in the absence of all these officers a presiding officer shall be chosen by a majority of the members present.

2.—The appointment of a Committee on Credentials and the Committee on finance.

3.—Report of Committee on Credentials.

4.—Roll call.

5.—Reading of the President's Message.

6.—Any business requiring early attention may, by permission, be introduced.

7.—Correspondence shall be read by the Secretary.

8.—Written communications upon medical subjects may be read and discussed. This shall include reports from sections as arranged each year by programme.

9.—Oral communications may be read and discussed.

10.—Election of officers.

11.—The selection of a place for the next annual meeting of the Society.

12.—Unfinished business.

13.—Adjournment.

CODE OF MEDICAL ETHICS.

OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS, AND OF THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

ARTICLE I.

DUTIES OF PHYSICIANS TO THEIR PATIENTS.

SECTION 1. A physician should not only be ever ready to obey the calls of the sick, but his mind ought also to be imbued with the greatness of his mission, and the responsibility he habitually incurs in its discharge. These obligations are the more deep and enduring because there is no tribunal other than his own conscience to adjudge penalties for carelessness or neglect. Physicians should, therefore, minister to the sick, with due impression of the importance of their office, reflecting that the ease, the health and the lives of those committed to their charge depended on their skill, attention and fidelity. They should study, also in their deportment, so to unite tenderness with firmness, and condescension with authority, as to inspire the minds of their patients with gratitude, respect and confidence.

SEC. 2. Every case committed to the charge of a physician should be treated with attention, steadiness and humanity. Reasonable indulgence should be granted to the mental imbecility and caprices of the sick. Secrecy and delicacy, when required by peculiar circumstances, should be strictly observed, and the familiar intercourse to which physicians are admitted in their professional visits, should be used with discretion, and with the most scrupulous regard to fidelity and honor. The obligations of secrecy extends beyond the period of professional services; none of the privacies of personal and domestic life, no infirmity of disposition or flaw of character observed during professional attendance should ever be divulged by the physician except when he is imperatively required to do so. The force and necessity of this obligation are indeed so great that professional men have, under certain circumstances, been protected in their observance of secrecy by courts of justice.

SEC. 3. Frequent visits to the sick are in general requisite, since they enable the physician to arrive at a more perfect knowledge of the disease—to meet promptly every change which may occur, and also to tend to preserve the confidence of the patient. But unnecessary visits are to be avoided, as

they give useless anxiety to the patient, tend to diminish the authority of the physician, and render him liable to be suspected of interested motives.

SEC. 4 A physician should not be forward to make gloomy prognostications, because they savor of empiricism, by magnifying the importance of his services in the treatment or cure of the disease. But he should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it really occurs, and even to the patient himself, if absolutely necessary. This office, however, is so peculiarly alarming when executed by him that it ought to be declined whenever it can be assigned to any other person of sufficient judgment and delicacy. For the physician should be the minister of hope and comfort to the sick; that, by such cordials to the drooping spirit, he may smooth the bed of death, revive expiring life, and counteract the depressing influence of those maladies which often disturb the tranquility of the most resigned in their last moments. The life of a sick person can be shortened, not only by the acts, but also by the words or manner of a physician. It is, therefore, a sacred duty to guard himself carefully in this respect, and to avoid all things which have a tendency to discourage the patient and to depress his spirits.

SEC. 5. A physician ought not to abandon a patient because the case is thought incurable; for his attendance may continue to be highly useful to the patient, and comforting to the relatives around him, even in the last period of fatal malady, by alleviating pain and other symptoms, and by smoothing mental anguish. To decline attendance upon such circumstances would be sacrificing to fanciful delicacy and mistaken liberality, that moral duty which is independent of, and far superior to, all pecuniary consideration.

SEC. 6. Consultations should be promoted in difficult or protracted cases, as they give rise to confidence, energy and more enlarged views in practice.

SEC. 7. The opportunity which a physician not unfrequently enjoys of promoting and strengthening the good resolutions of his patients, ought never to be neglected. His counsels, or even remonstrances, will give satisfaction, not offense, if they be proffered with politeness, and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

ARTICLE II.

OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

SECTION 1. The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease and health for the

welfare of those who avail themselves of their services, certainly have a right to expect and require that their patients should entertain a just sense of the duties which they owe to their medical attendants.

SEC. 2. The first duty of a patient is to select as his medical adviser one who has received a regular professional education. In no trade or occupation do mankind rely on the skill of an untaught artist; and in medicine, confessedly the most difficult and intricate of the sciences, the world ought not to suppose that knowledge is intuitive.

SEC. 3. Patients should prefer a physician whose habits of life are regular, and who is not devoted to company, pleasure or any pursuit incompatable with his professional obligations. A patient should also confide the care of himself and family, as much as possible, to one physician; for a medical man who has become acquainted with the peculiarities of constitution, habits and predispositions of those he attends, is more likely to be successful in his treatment than one who does not possess that knowledge.

A patient who has thus selected his physician should always apply for advice in what may appear to him trivial cases, for the most fatal results often supervene on the slightest accidents. It is of still more importance that he should apply for assistance in the forming stage of violent diseases; it is to a neglect of this precept that medicine owes much of the uncertainty and imperfection with which it has been reproached.

SEC. 4. Patients should faithfully and unreservedly communicate to their physician the supposed cause of their disease. This is the more important, as many diseases of a mental origin simulate those depending on external causes and yet are only to be cured by ministering to the mind diseased. A patient should never be afraid of thus making his physician his friend and adviser; he should always bear in mind that a medical man is under the strongest obligations of secrecy. Even the female sex should never allow feelings of shame or delicacy to prevent their disclosing the seat, symptoms and causes of complaints peculiar to them. However commendable a modest reserve may be in the common occurrences of life, its strict observance in medicine is often attended with the most serious consequences, and a patient may sink under a painful and loathsome disease, which might have been readily prevented had timely intimation been given to the physician.

SEC. 5. A patient should never weary his physician with a tedious detail of events or matters not appertaining to his disease. Even as relates to his actual symptoms, he will convey much more real information by giving clear answers to interrogatories than by the most minute account of his own framing. Neither should he obtrude upon his physician the details of his business nor the history of his family concerns.

SEC. 6. The obedience of a patient to the prescriptions of his physician should be prompt and explicit. He should never permit his own crude opinions as to their fitness to influence his attention to them. A failure in one particular may render an otherwise judicious treatment dangerous, and even fatal. This remark is equally applicable to diet, drink and exercise. As patients become convalescent, they are very apt to suppose that the rules prescribed for them may be disregarded, and the consequence, but too often, is a relapse. Patients should never allow themselves to be persuaded to take any medicine whatever that may be recommended to them by self-constituted doctors and doctresses who are so frequently met with, and who pretend to possess infallable remedies for the cure of every disease. However simple some of their prescriptions may appear to be, it often happens that they are productive of much mischief, and in all cases they are injurious by contravening the plan of treatment adopted by the physician.

SEC. 7. A patient should, if possible avoid even the friendly visits of a physician who is not attending him—and when he does receive them, he should never converse on the subject of his disease, as an observation may be made, without any intention of interference, which may destroy his confidence in the course he is pursuing, and induce him to neglect the directions prescribed to him. A patient should never send for a consulting physician without the express consent of his own medical attendant. It is of great importance that physicians should act in concert; for, although their modes of treatment may be attended with equal success when applied singly, yet conjointly they are very likely to be productive of disastrous results.

SEC. 8. When a patient wishes to dismiss his physician, justice and common courtesy require that he should declare his reasons for so doing.

SEC. 9. Patients should always, when practicable, send for their physician in the morning, before his usual hour of going out; for by being early aware of the visits he has to pay during the day, the physician is able to apportion his time in such a manner as to prevent an interference of engagements. Patients should also avoid calling on their medical advisers unnecessarily during the hours devoted to meals or sleep. They should always be in readiness to receive the visits of their physician, as the detention of a few minutes is often of serious inconvenience to him.

SEC. 10. A patient should after his recovery, entertain a just and endearing sense of the value of the services rendered by his physician; for these are of such a character that no mere pecuniary acknowledgement can repay or cancel them.

OF THE DUTIES OF PHYSICIANS TO EACH OTHER AND THE PROFESSION AT LARGE.

ARTICLE I.

DUTIES FOR THE SUPPORT OF PROFESSIONAL CHARACTER.

SECTION. 1. Every individual, on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to extend his best abilities to maintain its dignity and honor, to exact its standing and to extend the bounds of its usefulness. He should, therefore, observe strictly such laws as are instituted for the government of its members; should avoid all contumelious and sarcastic remarks relative to the faculty as a body; and while, by unwearied diligence, he resorts to every honorable means of enriching the science he should entertain a due respect for his seniors, who have, by their labors, brought it to the elevated condition in which he finds it.

SEC. 2. It is not in accord with the interest of the public or the honor of the profession that any physician or medical teacher should examine or sign diplomas or certificates of proficiency for, or otherwise be specially concerned with, the graduation of persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine.

SEC. 3. There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical, and to attain such eminence is a duty every physician owes alike to his profession and to his patients. It is due to the latter, as without it he can not command their respect and confidence, and to both because no scientific attainments can compensate for the want of correct moral principles. It is also incumbent upon the faculty to be temperate in all things, for the practice of physic requires the unremitting exercise of a clear and vigorous understanding; and, on emergencies, for which no professional man should be unprepared, a steady hand, an acute eye and an unclouded head may be essential to the well being, and even to the life, of a fellow being.

SEC. 4. It is derogatory to the dignity of the profession to resort to public advertisements, or private cards, or hand-bills, inviting the attention of individuals affected with peculiar diseases—publicly offering advice and medicine to the poor gratis, or promising radical cures, or to publish cases and operations in the daily prints, or suffer such publications to be made, to invite laymen to be present at operations, to boast of cures and remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician.

SEC. 5. Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine; or to dispense a secret nostrum, whether it be the composition or exclusive property of himself or of others. For, if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mistery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent medicines, or in any way to promote the use of them.

ARTICLE II.

PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

SECTION 1. All practitioners of medicine, their wives and their children, while under paternal care, are entitled to the gratuitous services of any one or more of the faculty residing near them whose assistance may be desired. A physician afflicted with disease is usually an incompetent judge of his own case; and the natural anxiety and solicitude which he experiences at the sickness of a wife, a child, or any one who, by the ties of consangunity, is rendered peculiarly dear to him, tend to obscure his judgment and produce timidity and irresolution in his practice. Under such circumstances medical men are peculiarly dependent upon each other, and kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously; as such unasked civility may give rise to embarrassment, or interfere with that choice on which confidence depends. But, if a distant member of the faculty, whose circumstances are affluent, request attendance, and a honorarium be offered, it should not be declined; for no pecuniary obligation ought to be imposed, which the party receiving it would wish not to incur.

ARTICLE III.

OF THE DUTIES OF PHYSICIANS AS RESPECT VARIOUS OFFICES.

SECTION 1. The affairs of life, the pursuit of health, and the various accidents and contingencies to which a medical man is peculiarly exposed, sometimes require him temporarily to withdraw from his duties to his patients, and to request some of his professional brethren to officiate for him. Compliance with this request is an act of courtesy which should always be performed with utmost consideration for the interest and character of the family physician and when exercised for a short period all the pecuniary obligations for such service should be awarded to him. But if a member of the profession neglect his business in quest of pleasure and amusement, he cannot be con-

sidered as entitled to the advantages of the frequent long-continued exercises of this fraternal courtesy, without awarding to the physician who officates the fees arising from the discharge of his professional duties.

SEC. 2. In obstetrical and important surgical cases, which give rise to unusual fatigue, anxiety and responsibility, it is just that the fees accruing therefrom should be awarded to the physician who officiates.

ARTICLE IV.

OF THE DUTIES OF PHYSICIANS AS REGARDCONSULTATIONS.

SECTION 1. A regular medical education furnishes the only presumptive evidence of professional abilities and requirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent regular practitioner, who has a license to practice from some medical board of known acknowledged responsibility, recognized by this Association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultation, when it is requested by the patient. But no one can be considered as a regular practitioner or a fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and the aids actually furnished by anatomy, physiology, pathology and organic chemistry.

SEC. 2. In consultations no rivalship or jelousy should be indulged; candor, probity and all due respect should be exercised toward the physician having charge of the case.

SEC. 3. In consultations the attending physician should be the first to propose the necessary questions to the sick, after which the consulting physician should have the opportunity to make such further inquiries of the patient as may be necessary to satisfy him of the true character of the case. Both physicians should then retire to a private place for deliberation; and the one first in attendance should communicate the directions agreed upon to the patient or his friends, as well as any opinions which it may be thought proper to express. But no statement or discussion of it should take place before the patient or his friends, except in the presence of the faculty attending, and by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence.

SEC. 4. In consultations the physician in attendance should deliver his opinion first, and when there are several consulting,

they should deliver their opinions in the order in which they have been called in. No decision, however, should restrain the attending physician from making such variations in the mode of treatment as any subsequent unexpected change in the character of the case may demand. But such variations, and the reasons for it, ought to be carefully detailed at the next meeting in consultatian. The same privilege belongs also to the consulting physician if he is sent for in an emergency when the regular attendant is out of the way, and similar explanations must be made by him at the next consultation.

Sec. 5. The utmost punctuality should be observed in the visits of physicians when they are to hold consultations together, and this is greatly practicable, for society has been considerate enough to allow the plea of a professional engagement to take precedence of all others, and to be an ample reason for the relinquishment of any present occupation. But as professional engagements may sometimes interfere and delay one of the parties, the physician who first arrives should wait for his associate a reasonable period, after which the consultation should be considered as postponed to a new appointment. If it be the attending physician who is present, he will, of course, see the patient and prescribe; but if it be the consulting one, he should retire except in case of emergency, or when he has been called from a considerable distance, in which latter case he may examine the parient, and give his opinion in writing, and under seal, to be delivered to his associate.

Sec. 6. In consultations theoretical discussions should be avoided as occasioning perplexity and loss of time. For there may be much deversity of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded, not on hypothesis, but on experience and observation.

Sec. 7. All discussions in consultation should be held as secret and confidential. Neither by words or manner should any of the parties to a consultation assert or insinuate that any part of the treatment pursued did not receive his assent. The responsibility must be equally divided between the medical attendants —they must equally share the credit of success as well as the blame of failure.

Sec. 8. Should an irreconcilable deversity of opinion occur when several physicians are called upon to consult together, the opinion of the majority should be considered as decisive; but if the number be equal on each side then the decision should rest with the attending physician. It may, moreover, sometimes happen that two physicians cannot agree in their views of the nature of a case, and the treatment to be pursued. This is a circumstance much to be deplored, and should always be avoided, if possible, by mutual concession, as far as they can be justified by a conscientious regard for the dictates of judg-

ment. But in the event of its occurrence a third physician should, if practicable, be called to act as umpire; and, if circumstances prevent the adoption of this course, it must be left to the patient to select the physician in whom he is most willing to confide. But, as every physician relies upon the rectitude of his judgment, he should, when left in the minority, politely and consistently retire from any further deliberation in the consultation, or participation in the management of the case.

SEC. 9. As circumstances sometimes occur to render a special consultation desirable, when the continued attendance of two physicians might be objectionable to the patient, the member of the faculty whose assistance is required in such cases should sedulously guard against all future unsolicited attendance. As such consultations require an extraordinary portion of both time and attention, at least a double honorarium may be reasonably expected.

SEC. 10. A physician who is called upon to consult should observe the most honorable and scrupulous regard for the character and standing of the practitioner in attendance: the practice of the latter, if necessary, should be justified, as far as can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in him, or affect his reputation. The consulting physician should also carefully refrain from any of those extraordinary attentions or assiduities which are too often practiced by the dishonest for the base purpose of gaining applause, or ingratiating themselves into the favor of families and individuals.

ARTICLE V.

DUTIES OF PHYSICIANS IN CASE OF INTERFERENCE.

SECTION. 1. Medicine is a liberal profession, and those admitted into its ranks should found their expectations of practice upon the extent of their qualifications, not on intrigue or artifice.

SEC. 2. A physician, in his intercourse with a patient under the care of another practitioner, should observe the strictest caution and reserve. No meddling inquiries should be made; no disingenuous hints given relative to the nature and treatment of his disorder; nor any course of conduct pursued that may directly or indirectly tend to diminish the trust reposed in the physician employed.

SEC. 3. The same circumspection and reserve should be observed when, from motives of business or friendship, a physician is prompted to visit an individual who is under the direction of another practitioner. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made no particular inquiries should be instituted relative to the nature of this disease, or the remedies employed, but the

topics of conversation should be as foreign to the case as circumstances will admit.

SEC. 4. A physician ought not to take charge of or prescribe for a patient who has recently been under the care of another member of the faculty in the same illness, except in cases of sudden emergency, or in consultation with the physician previously in attendance, or when the latter has relinquished the case, or been regularly notified that his services are no longer desired. Under such circumstances, no unjust and illiberal insinuation should be thrown out in relation to the conduct or practice previously pursued, which should be justified as far as candor and regard for truth and probity will permit; for it often happens that patients become dissatisfied when they do not experience immediate relief, and, as many diseases are unusually protracted, the want of success, in the first stage of treatment, affords no evidence of a lack of professional knowledge and skill.

SEC. 5. When a physician is called to an urgent case, because the family attendant is not at hand, he ought, unless his assistance in consultation be desired, to resign the care of the patient to the latter immediately on his arrival.

SEC. 6. It often happens in case of sudden illness, or of recent accidents and injuries, owing to the alarm and anxiety of friends, that a number of physicians are simultaneously sent for. Under these circumstances, courtesy should assign the patient to the first who arrives, who should select from those present any additional assistance that he may deem necessary. In all such cases, however, the practitioner who officiates should request the family physician, if there be one, to be called, and, unless his further attendance be requested, should resign the case to the latter on his arrival.

SEC. 7. When a physician is called to the patient of another practitioner, in consequence of the sickness or absence of the latter, he ought, on his return or recovery of the regular attendant, and with the consent of the patient, to surrender the case.

[The expression, "patient of another practitioner," is understood to mean a patient who may have been under the charge of another practitioner at the time of the attack of sickness, or departure from home of the latter, or who may have called for his attendance during his abscence or sickness, or in any other manner given it to be understood that he regarded the said physician as his regular medical attendant.]

SEC. 8. A physician, when visiting a sick person in the country, may be desired to see a neighboring patient who is under the regular direction of another physician, in consequence of some sudden change or aggravation of symptoms. The conduct to be pursued on such an occasion is to give advice adapted to present circumstances; to interfere no further than is absolutely

necessary with the general plan of treatment; to assume no further direction unless it be expressly desired; and, in the last case, to request an immediate consultation with the practitioner previously employed.

SEC. 9. A wealthy physician should not give advice gratis to the affluent; because his doing so is an injury to his professional brethren. The office of a physician can never be supported as an exclusive beneficent one; and it is defrauding, in some degree, the common funds for its support, when fees are dispensed with which might justly be claimed.

SEC. 10. When a physician who has been engaged to attend a case of midwifery is absent, and another is sent for, if delivery is accomplished during the attendance of the latter, he is entitled to the fee, but should resign the patient to the practitioner first engaged.

ARTICLE VI.

OF DIFFERENCES BETWEEN PHYSICIANS.

SECTION 1. Diversity of opinion and opposition of interest may, in the medical, as in other professions, sometimes occasion controversy and even contention. Whenever such cases unfortunately occur, and cannot be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians or a court-medical.

SEC. 2. As a peculiar reserve must be maintained by physicians towards the public, in regard to professional matters, and as there exist numerous points in medical ethics and etiquette through which the feelings of medical ethics and etiquette assailed in their intercourse with each other, and which cannot be understood or appreciated by general society, neither the subject-matter of such differences nor the adjudication of the arbitrators should be made public, as publicity in a case of this nature may be personally injurious to the individuals concerned, and can hardly fail to bring discredit on the faculty.

ARTICLE VII.

OF PECUNIARY ACKNOWLEDGEMENTS.

SECTION 1. Some general rules should be adopted by the faculty, in every town or district, relative to pecuniary acknowledgements from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

OF THE DUTIES OF THE PROFESSION TO THE PUBLIC, AND OF THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

ARTICLE I.

DUTIES OF THE PROFESSION TO THE PUBLIC.

SECTION. 1. As good citizens, it is the duty of physicians to

be ever vagilant for the welfare of the community and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene and legal medicine. It is their province to enlighten the public in regard to quarantine regulations; the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions in relation to the medical police of towns, as drainage, ventilation, etc.; and in regard to measures for the prevention of epidemic and contagious diseases; and when the pestilence prevails it is their duty to face the danger and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives.

Sec. 2. Medical men should always be ready, when called on by the legally constituted authorities, to enlighten coroners' inquests and courts of justice on subjects strictly medical—such as involve questions relating to sanity, legitimacy, murder by poisons or other violent means, and in regard to the various other subjects embraced in the science of Medical Jurisprudence. But in these cases, and especially where they are required to make a post mortem examination, it is just, in consequence of the time, labor and skill required and the responsibility and risk they incur, that the public should award them a proper honorarium.

Sec. 3. There is no profession by the members of which elemosynary services are more liberally dispensed than the medical, but justice requires that some limits should be placed to the performance of such good officers. Poverty, professional brotherhood and certain of the public duties referred to in the first section of this article, should always be recognized as presenting vaiid claims for gratuitous services; but neither institutions endowed by the public or by rich individuals, societies for mutual benefit, for the insurance of lives or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege. Nor can it be justly expected of physicians to furnish certificates of inability to serve on juries, to perform military duty, or to testify to the state of health of persons wishing to insure their lives, to obtain pensions, or the like, without a pecuniary aknowledgement. But to individuals in indigent circumstances such professional services should always be cheerfully and freely accorded.

Sec. 4. It is the duty of physicians who are frequent witnesses of the enormities committed by quackery and the injury to health, and even destruction of life caused by the use of quack medicines, to enlighten the public on these subjects, to expose the injuries sustained by the unwary from the devices and pretentions of artful empirics and imposters. Physicians ought to use all the influence which they may possess, as professors in colleges of pharmacy, and by exercising their option in regard

to the shops to which their prescriptions shall be sent, to discourage druggists and apothecaries from vending quack or secret medicines, or from being in any way engaged in their manufacture and sale.

ARTICLE II.

OBLIGATIONS OF THE PUBLIC TO THE PHYSICIAN.

SECTION. 1. The benefits accruing to the public, directly and indirectly, from the active and unwearied beneficence of the profession, are so numerous and important, that physicians are justly entitled to the utmost consideration and respect from the community. The public ought likewise to entertain a just appreciation of medical qualifications; to make a proper discrimination between true science and the assumptions of ignorance and empiricism; to afford every encouragement and facility for the acquisition of medical education—and no longer to allow the statute-books to exhibit the anomaly of exacting knowledge from physicians, under a liability to heavy penalties, and of making them obnoxious to punishment for resorting to the only means of obtaining it.

List of Members.

IN THE ORDER IN WHICH THEY SIGNED THE CONSTITUTION.

(The effort has been made to obtain the correct address of each member of the Society. Any person noting an error or omission in the roster will please inform the secretary of the Society, at Charlotte, giving the proper correction.)

DATE OF SIGNING.		
1849	Dr. J. B. Dunn	Raleigh.
1851	" Robt. Gibbon	Charlotte.
1852	" Allman Holmes	Clinton.
1855	" Peter E. Hines	Raleigh.
1857	" R. H. Winborne	Barnitz.
1858	" Geo. A. Foote	Warrenton.
1859	" Eugene Grissom	Pueblo, Colorado.
1860	" W. J. Jones	Goldsboro.
60	" Chas. J. O'Hagan	Greenville.
60	" J. W. Jones	Tarboro.
60	" J. K. Ruffin	Wilson.
1867	" Wm. R. Wood	Scotland Neck.
67	" P. A. Barrier	Mt. Pleasant.
67	" Geo. L. Kirby	Raleigh.
67	" J. F. Shaffner	Salem.
1868	" W. T. Cheatham	Henderson.
68	" F. J. Haywood	Raleigh.
68	" B. P. Alston	Henderson.
1869	" H. T. Bahnson	Salem.
1870	" W. W. Lane	Wilmington.
70	" Chas. Duffy	Newbern.
70	" Wm. J. Love	Wilmington.
70	" Jas. McKee	Raleigh.
70	" Willis Alston	Littleton.
70	" W. J. H. Bellamy	Wilmington.
1871	" W. I. Royster	Raleigh.
71	" Geo. Gillett Thomas	Wilmington.
1872	" Francis Duffy	Newbern.
1873	" A. G. Carr	Durham.
73	" J. F. Miller	Goldsboro.
73	" J. M. Hadley	LaGrange.
73	" J. W. Vick	Selma.
73	" P. L. Murphy	Morganton.
1874	" Jos. Graham	Charlotte.
74	" W. H. Lilly	Concord.
74	" J. H. McMullen	Edenton.
74	" T. D. Haigh	Fayetteville.
1875	" L. J. Picot	Littleton.
75	" D. W. Bulluck	Wilmington.
75	" W. H. Whitehead	Rocky Mount.
75	" R. H. Speight	Wrendale.
1876	" W. C. McDuffie	Fayetteville.
76	" Henry Tull	Kinston.

76	Dr. J. W. McNeill	Fayetteville.
76	" J. D. McMillan	Lumberton.
1877	" Geo. W. Long	Graham.
77	" Geo. W. Graham	Charlotte.
77	" N. S. Sievers	Salem.
77	" Richard H. Lewis	Raleigh.
77	" J. F. Harrell	Whiteville.
77	" L. H. Hill	Cermanton.
1878	" R. J. Noble	Selma.
78	" W. H. H. Cobb	Goldsboro.
78	" J. H. Tucker	Henderson.
78	" E. H. Hornaday	Willow Green.
1879	" I. W. Faison	Charlotte.
79	" I. G. Ector	Friendship.
79	" J. M. Covington	Rockingham.
79	" W. P. Beall	Greensboro.
79	" A. D. McDonald	Wilmington.
79	" S. B. Jones	Charlotte.
79	" J. J. Cox	High Point.
79	" D. M. Prince	Laurinburg.
79	" J. A. Sexton	Raleigh.
79	" John C. Walton	Reidsville.
79	" R. A. Hargrave	Robersonville.
79	" Julian M. Baker	Tarboro.
79	" Thos. E. Anderson	Statesville.
1880	" J. M. Stansill	Rockingham.
80	" Thomas Hill	Goldsboro.
80	" E. de la R. King	Beaufort.
80	" J. C. Shepard	Wilmington.
80	" W. C. Galloway	Wilmington.
80	" T. S. Burbank	Wilmington.
80	" R. W. Thomas	Thomasville.
80	" C. M. Poole	Craven.
80	" J. L. Nicholson	Richlands.
80	" A. W. Knox	Raleigh.
80	" John Whitehead	Salisbury.
80	" S. J. Montague	Winston.
80	" W. P. Mercer	Elm City.
80	" L. W. Hunter	Sardis.
1881	" R. F. Whiteside	Hickory.
81	" J. A. Reagan	Weaverville.
81	" G. W. Fletcher	Fletchers.
81	" M. H. Fletcher	Asheville.
81	" T. M. Jordan	Hookerton.
81	" R. L. Payne	Norfolk, Va.
81	" T. S. Meisenheimer	Morven.
81	" T. F. Pharr	Concord.
81	" H. B. Weaver	Asheville.
81	" A. J. Battle	Wadesboro.
81	" J. H. Williams	Asheville.
1882	" J. R. Irwin	Charlotee.
82	" A. R. Wilson	Greensboro.
82	" K. P. Battle	Ralelgh.
82	" R. S. Young	Concord.
82	" R. A. Smith	Goldsboro.
82	" C. A. Meisenheimer	Charlotte.
1883	" W. W. Faison	Goldsboro.
83	" W. O. McDowell	Scotland Neck.
83	" N. H. Street	Newbern.
83	" J. A. Stevens	Clinton.

83	Dr. T. S. Royster	Townesville.
83	" I. M. Taylor	Morganton.
83	" J. M. Hodges	LaGrange.
83	" W. L. Hudson	Dunn.
83	" F. R. Harriss	Henderson.
83	" G. C. Edwards	Hookerton.
83	" E. M. Summerell	Mill Bridge.
83	" N. M. McLean	Gibson's Station.
83	" B. L. Long	Hamilton.
83	" N. P. Boddie	Durham.
1884	" W. G. Freeman	Murfresboro.
84	" W. C. Whitfield	Quinerly.
84	" J. A. Burroughs	Asheville.
84	" F. W. Brown	Greenville.
84	" J. W. Long	High Point.
84	" M. P. Perry	Macon.
84	" G. J. Robinson	Smithfield.
84	" M. R. Adams	Statesville.
84	" G. T. Sikes	Grissom.
84	" W. B. Pritchard	355 W. 58th St. N. Y.
84	" M. H. Futrell	Conway.
84	" B. F. McMillan	Plainview.
84	" J. E. Grimsley	Snow Hill.
84	" A. M. Herron	Charlotte.
1885	" L. M. Archey	Concord.
85	" W. E. Powell	Gastonia.
85	" F. W. Hughes	Newbern.
85	" E. W. Pugh	Windsor.
85	" S. D. Booth	Oxford.
85	" J. A. Hodges	Richmond, Va.
85	" Annie L. Alexander	Charlotte.
85	" J. T. Nicholson	Bath.
85	" A. T. Cotten	Morrisville.
85	" A. D. York	Morrisville.
85	" S. L. Montgomery	Concord.
85	" K. Leggett	Hobgood.
85	" W. W. Pharr	Newell's.
85	" J. M. Faison	Faison.
85	" J. W. McGee	Raleigh.
85	" H. W. Dorsett	Bethany.
85	" D. G. Caldwell	Concord.
85	" J. M. O'Kelly	Williams Mills.
85	" M. F. Fox	Greensboro.
85	" D. T. Tayloe	Washington.
85	" Zeno Brown	Greenville.
85	" F. W. Ritter	Moyock.
85	" Mayland Bolton	Rich Square.
85	" W. E. Turlington	Benson.
1886	" G. H. Dodd	Clayton.
86	" B. S. Utley	Holly Springs.
86	" R. A. Whitaker	Trenton.
86	" M. W. Harper	Dunn.
86	" H. H. Harriss	Wake Forest.
86	" S. C. McClure	
86	" M. E. Robinson	Goldsbro.
1887	" O. D. King	Albemarle.
87	" W. D. Pemberton	Monroe.
87	" A. W. Goodwin	Raleigh.
87	" W. H. Bagwell	Greenville.
87	" H. W. Lewis	Jackson.

87	Dr. Henry H. Dodson	Milton.
87	" S. W. Battle, U. S. N	Asheville.
87	" J. F. Beall	Linwood.
87	" W. L. Crouse	Lincolnton.
87	" Joe Hill	Lexington.
87	" J. H. Way	Waynesville.
87	" R. H. Stancell	Margarettesville.
87	" R. A. Patterson	Aurelian Springs.
87	" J. McDeArmond	Mint Hill.
87	" R. J. Brevard	Charlotte.
87	" R. C. Register	Charlotte.
87	" R. W. Tate	Greensboro.
87	" J. D. Croom	Maxton.
87	" D. C. Parris	Hillsboro.
1888	" J. C. Grady	Mt. Olive.
88	" J. A. Faison	Raleigh.
88	" A. McDougald	Hope Mills.
88	" W. J. Lumsden	Elizabeth City.
88	" G. H. Moran	Morganton.
88	" N. B. Herring	Wilson.
88	" Jas. W. McGee, Jr.	Raleigh.
88	" Arch. McKinnon	Lumber Bridge.
88	" Duncan Smith	Athens.
88	" S. A. Henly	Asheboro.
88	" W. A. Monroe	Sanford.
88	" C. E. Woodley	Kinston.
88	" W. S. Anderson	Wilson.
88	" J. G. Broadnax	Greensboro.
88	" Duncan Sinclair	Rowland.
88	" J. B. Ashcraft	Monroe.
88	" C. H. Lewis	Farmers.
88	" E. B. Goelet	Saluda.
88	" B. T. Cox	Redalia.
88	" A. Cheatham	Durham.
88	" Jenness Morrill	Farmville.
1889	" J. T. J. Battle	Wadesboro.
89	" W. V. McCauless	Danbury.
89	" Oscar McMullan	Elizabeth City.
89	" Albert Anderson	Wilson.
89	" W. B. Fearing	Poplar Branch.
1890	" W. G. Stafford	Burlington.
90	" J. S. Lafferty	Concord.
90	" T. L. Booth	Oxford.
90	" J. H. Marsh	Fayetteville.
90	" P. B. Loftin	Bell's Ferry.
90	" R. L. Gibbon	Charlotte.
90	" W. A. Graham	Charlotte.
90	" J. L. Ray	Burnsville.
90	" W. H. Harrell	Williamston.
90	" J. L. Egerton	Hendersonville.
90	" J. W. White	Wilkesboro.
90	" E. G. Moore	Elm City.
90	" J. P. Fearrington	Winston.
90	" E. R. Michaux	Greensboro.
90	" E. P. Snipes	Jonesboro.
90	" E. C. Laird	Haw River.
90	" J. P. Munroe	Davidson.
90	" R. A. Martin	Roxboro.
90	" R. D. Jewett	Wilmington.

1891	Dr.	J. B. H. Knight	Williamston.
91	"	J. G. Waldrop	Hendersonville.
91	"	C. Few	Hendersonville.
91	"	W. F. Chenault	Elmwood.
91	"	C. G. Nichols	Roxboro.
91	"	Richard H. Whitehead	Chapel Hill.
91	"	Jos. L. Laxton	Morganton.
91	"	Karl von Ruck	Asheville.
91	"	D. A. Stanton	High Point.
91	"	Jas. A. Turner	High Point.
91	"	H. Longstreet Taylor	S. Paul, Minn.
91	"	J. F. Sanderford	Creedmore.
91	"	D. I. Watson	Southport.
91	"	C. Daligny	Thomasville.
91	"	W. E. Headen	Morehead City.
91	"	W. J. Kloutz	Alexander.
91	"	A. J. Monroe	Jonesboro.
91	"	J. Y. Fitzgerald	Monroe.
91	"	J. A. Watson	Asheville.
91	"	W. H. Wilson	Gastonia.
91	"	H. K. Edgerton	Selma.
91	"	J. T. Reid	Old Fort.
91	"	J. C. Black	Pioneer Mills.
91	"	R. W. Palmer	Gulf.
91	"	W. P. Ivey	Lenoir.
1892	"	J. Alston Nicholson	Washington.
92	"	E. L. Cox	Jacksonville.
92	"	W. J. Harrell	Aulander.
92	"	P. R. Hatch	Youngsville.
92	"	R. W. Mills	Troutmans.
92	"	Russell Bellamy	152 W. 57th St., N.Y.
92	"	A. G. Jones	Walnut Cove.
92	"	Wade H. Atkinson	Washington, D. C.
92	"	G. V. Cate	Taylor's Bridge.
92	"	Silas P. Wright	Wilmington.
92	"	K. A. Blue	Laurinburg.
92	"	H. Johnson	Grifton.
92	"	A. J. Patterson	Liberty.
92	"	F. P. Gates	Bayboro.
92	"	W. R. Mayo	Jamesville.
92	"	W. E. Fitch	Charleston, S. C.
92	"	C. B. Ingram	Mt. Gilead.
92	"	T. S. McMullan	Hertford.
92	"	J. B. Shamberger	Star.
92	"	Wm. D. McMillan	Wilmington.
92	"	E. G. Goodman	El Paso.
1893	"	T. B. Williams	Ridgeway.
93	"	G. M. Bell	Wakefield.
93	"	W. B. Bullock	Franklinton.
93	"	J. A. Matthews	Castalia.
93	"	F. H. Seawell	Archer Lodge.
93	"	R. J. Nelson	Robersonville.
93	"	M. W. Gibson	Taylorsville.
93	"	Albert Houck	Lenoir.
93	"	S. Hassell	Plymouth.
93	"	W. R. Galey	Graham.
93	"	J. M. Flippin	Salisbury.
93	"	C. A. Julian	Thomasville.
93	"	Jas. T. Rieves	Julian.
93	"	B. B. Williams	Keyser.
93	"	W. H. Wakefield	Charlotte.

1893	Dr. R. J. Grimes	Bethel.
93	" E. F. Strickland	Bethania.
93	" H. C. Williams	Aberdeen.
93	" R. A. Moore	Moncure.
93	" R. L. Davis	Bryson City.
93	" W. H. Nicholson	Louisburg.
93	" Robt. J. Gill	Henderson.
93	" J. G. Blount	Washington.
93	" G. A. Renn	Raleigh.
93	" W. K. Hollingsworth	Mt. Airy.
93	" J. H. Gibbon	Philadelphia, Pa.
93	" M. L. Stevens	Enochville.
93	" C. N. Roberson	Ascend.
93	" Josh. Tayloe	Washington.
1894	" W. T. Richardson	Greensboro.
94	" J. R. Gordon	Jamestown.
94	" C. O'H. Laughinghouse	Greenville.
94	" J. R. Hester	Prospect Hill.
94	" W. W. McKenzie	Salisbury.
94	" W. S. Taylor	Mt. Airy.
94	" R. E. Cox	Fremont.
94	" J. H. Mease	Canton.
94	" Thos. M. Riddick	Woodville.
94	" J. D. Jenkins	Crisp.
94	" C. L. Jenkins	Conetoe.
94	" C. S. Gilmer	Greensboro.
94	" C. H. Lewis	Reidsville.
94	" L. D. Wharton	Smithfield.
94	" B. F. Hallsey	Roper.
94	" O. B Stroud	Ore Hill.
94	" C. T. Harper	Wilminton.
94	" J. D. Edwards	Siler City.
94	" W. C. Steele	Mt. Olive.
94	" C. E. Walker	Huntersville.
94	" W. J. Vestal	Tyro Shops.
94	" Jno. E. Logan	Greensboro.
94	" W. J. Jones, Jr	Goldsboro.
94	" W. C. McCanless	Danbury.
94	" A. A. Kent	Lenoir.
94	" A. E. Ledbetter	Greensboro.
94	" D. A. Roberson	Guilford College.
94	" A. H. Harris	Wilmington.
94	" W. O. Spencer	Yanceyville.
94	" J. A. Meyers	Lexington.
94	" L. L. Johnson	Angeline.
94	" D. R. Schenck	Greensboro.
94	" J. M. Williams	Greensboro.
94	" A. J. Crowell	China Grove.
94	" T. P. Boaz	Stoneville.
94	" G. M. Ivie	Stoneville.
94	" G. R. Hughes	Pollocksville.
94	" D. J. Hill	Lexington.
94	" W. C. Ashworth	Kernersville.
94	" G. A. Smith	Siler City.
94	" E. H. Sugg	Snow Hill.
1895	" F. H. Russell	Wilmington.
95	" W. E. Murphy	Carr.
95	" W D. Bowen	Bath.
95	" Geo. H. West	Newton.
95	" W. L. Kirkpatrick	Crab Tree.
95	" W. T. Turlington	Fremont.

1895	Dr. J. S. Brown	Salisbury.
95	" R. S. McGeachy	Raleigh.
95	" C. E. Moore	Wilson.
95	" F. W. Whitehead	Scotland Neck.
95	" H. A. Royster	Raleigh.
95	" Jno. W. Saine	Lincolnton.
95	" J. C. Montgomery	Charlotte.
95	" W. O. Baskerville	Oxford.
95	" Joseph Dixon	Ayden.
95	" B. W. West	Eureka.
95	" Jno. Thames	Lexington.
95	" J. T. Strickland	Nashville.
95	" J. C. Rodman	Washington.
95	" Claude M. Jones	Grimesland.
95	" F. H. Arthur	Harrell's Store.
1896	" Ab. Alexander	Columbia.
96	" Geo. Doughton	North Wilkesboro.
96	" C. C. Jackson	Plymouth.
96	" W. C. Brownson	W. Asheville.
96	" J. M. Turner	Wilkesboro.
96	" Fred. L. Potts	Vanceboro.
96	" Chas. W. Mosby	Kapps Mill.
96	" W. T. Holt	Donnahu.
96	" A. Y. Linville	Salem.
96	" Goode Cheatham	Henderson.
96	" James M. Parrott	Kinston.
96	" Jos. W. Kornegay	Mt. Olive.
96	" F. M. Holmes	Clinton.
96	" E. Fulp	Fulp.
96	" J. E. McLauchlin	Cool Spring.
96	" John Bynum	Winston.
96	" Chas. B. McAnally	Madison.
96	" G. W. Pressly	Charlotte.
96	" W. K. Reid	Pineville.
96	" W. H. Crowell	Poortith.
96	" Carl V. Reynolds	Asheville.
96	" W. G. Sutton	Winston.
96	" F. E. Asbury	Asbury.
96	" T. S. Faucette	Burlington.
96	" E. E. Klutz	Troutman.
96	" Anna M. Gove	Greensboro.
96	" Thos. B. Ashby	Mt. Airy.
96	" B. E. Reeves	Lamar.
96	" J. R. Reitzel	Woodleaf.
96	" Chas. L. Summers	Winston.
96	" J. B. Smith	Pilot Mountain.
96	" J. W. Rodwell	Cana.
1897	" F. M. Clarke	Beaufort.
97	" H. S. Baird	Asheville.
97	" R. S. Primrose	Newbern.
97	" Clara E. Jones	Goldsboro.
97	" G. A. Coggeshall	Oxford.
97	" Chas. J. Sawyer	Belcross.
97	" E. A. Moye	Greenville.
97	" B. K. Hays	Oxford.
97	" J. W. Duguid	Dover.
97	" J. H. Pool	South Mills.
97	" Thos. F. Costner	Lincolnton.
1898	" Clarence Porter Jones	Benson.
98	" George A. Ramseur	China Grove.
98	" L. E. Ricks	Parmele.

98.....Dr. C. C. Champion.....Mooresboro.
98..... " R. J. Teague.....Roxboro.
98..... " J. E. McBrayer,.....Shelby.
98..... " G. S. Tenant.....Asheville.
98..... " Eug. B. Gleen .....Asheville.
98..... " Chas. L. Minor.....Asheville.
98..... " W. E. Hemphill.....Arden.
98..... " G. A. Brown.....Bear Poplar.
98..... " Jas. R. Alexander.....Lowesville.
98..... " Sam'l McK. Crowell.....Madge.
98..... " J. W. P. Smithwick.....LaGrange.
98..... " Joy Harris.....Burlington.
98..... " D. P. Whitley.....Millingpost.
98..... " H, N. Abernathy.....Denver.
98..... " S. F. Pfohl.....Salem.
98..... " J. A. Williams.....Prospect Hill.
98..... " J. M. Blair.....Monroe.
98..... " S. J. Love.....Long's Store.
98..... " W. M. Fowlkes.....Rockingham.
98..... " E. R. Russell..... .. Hickory.
98..... " J. D. Williams.....Lewisville.
98..... " W. R. McCain.....McCain's.
98..... " W. H. Wooten.....Davidson.
98..... " E. H. Spainhower.....Jolliet.
98..... " L. A. Crowell.....Crimsic.
98..... " Geo. D. Everington.....Laurinburg.
98..... " Jas. R. Parker.....Menola.
98..... " C. M. Strong.....Charlotte.
98..... " J. F. Stewart.....Red Shoals.
98..... " R. E. Jenkins.....Belmont.
98..... " F. L. Long.....Catawba.
98..... " J. E. Kerr.....Pee Dee.
98..... " W. J. Jones.....Outlaw's Bridge.
98..... " J. S. Burrus.....Rockford.
98..... " John E. S. Davidson.....Hopewell
98..... " S. P. Woody.....Spring Creek.
98..... " S. T. Flippin.....Siloam.
98..... " R. L. Rierson.....Elks.
98..... " S. A. Stevens.....Monroe.
98..... " F. H. Gilreath .....Moravian Falls.
98..... " W. A. Rodgers.....Franklin.
98..... " J. I. Campbell.....Mint Hill.
98..... " E, C. Boyte.....Mount Holly.
98..... " W. P. Knight.....Oak Ridge.
98..... " Chas. Highsmith.....Parkersburg.
98..... " O. P. Schaub.....Culler.
98..... " Jno. B. Ray.....Leaksville.
98..... " J. W. McPherson.....Liberty.
98..... " Herbert B. Thomas.....New Berne.
98..... " James R. Campbell.....Newton.
98..... " Chas. S. Mangum.....Chapel Hill.
98..... " W. Sinclair Davidson.....Triangle.

HONORARY MEMBERS.

Dr. Hunter McGuire, Richmond, Va.
Dr. L. McL. Tiffany, Baltimore, Md.
Prof. L. A. Sayre, M. D., New York.
Dr. Thos. J. Moore, Richmond, Va.
Dr. W. T. Howard, Baltimore, Md.
Dr. W. W. Keen, Philadelphia, Pa.

HONORARY FELLOWS.

DATE OF SIGNING CONSTITUTION.		AT SESSION OF
1886	Dr. E. M. Littlejohn, Thomasville	1890
87	Dr. J. M. Lawing, Lincolnton	91
1855	Dr. J. G. Ramsay, Salisbury	83
1849	" J. B. Dunn, Raleigh	98
1851	" Robt. Gibbon, Charlotte	98
1852	" Allman Holmes, Clinton	98
1855	" Peter E. Hines, Raleigh	98
1857	" R. H. Winborne, Barnitz	98
1858	" Geo. A. Foote, Warrenton	98
1859	" Eugene Grissom, Pueblo, Colorado	98
1860	" W. J. Jones, Goldsboro	98
1860	" Chas. J. O'Hagan, Greenville	98
1860	" J. W. Jones, Tarboro	99
1860	" J. K. Ruffin, Wilson	98
1860	" Wm. R. Wood, Scotland Neck	98
1867	" P. A. Barrier, Mt. Pleasant	98
1867	" Geo. L. Kirby, Raleigh	98
1867	" J. F. Shaffner, Salem	98
1868	" W. T. Cheatham, Henderson	98
1868	" F. J. Haywood, Raleigh	98
1868	" B. P. Alston, Henderson	98

LIST OF MEMBERS ALPHABETICALLY ARRANGED.

Abernathy, H. H.	Denver	1898
Adams, M. R.	Statesville	1884
Alexander, Ab	Columbia	1896
Alexander, Annie L.	Charlotte	1885
Alexander, J. R	Lowesville	1898
Alston, P. B.	Henderson	1868
Alston, Willis	Littleton	1870
Anderson, Albert	Wilson	1889
Anderson, T. E.	Statesville	1879
Anderson, W. S.	Wilson	1888
Archey, L. M.	Concord	1885
Arthur, F. H	Harrell's Store	1895
Asbury, F. E.	Asbury	1896
Ashby, Thos. B	Mt. Airy	1896
Ashcraft, J. E.	Monroe	1888
Atkinson, W. H	707 12th St., N. W. Washington, D.C.	1892
Bagwell, W. H	Greenville	1887
Bahnson, H. T	Salem	1869
Baird, H. S.	Asheville	1897
Baker, Julian M	Tarboro	1879
Barrier, P. A.	Mt. Pleasant	1867
Baskerville, W. O	Oxford	1895
Battle, A. J	Wadesboro	1881
Battle, J. T. J.	Greensboro	1889
Battle, K. P., Jr	Raleigh	1882
Battle, S. W.	Asheville	1887
Beall, J. F	Linwood	1887
Beall, W. P.	Greensboro	1877
Bellamy, Russell	152 W. 57th St., N. Y.	1892
Bellamy, W. J. H	Wilmington	1870
Bell, G. M	Wakefield	1893
Best, B. W.	Eureka	1895
Black, J. C	Pioneer Mills	1891
Blair, J. M	Monroe	1898
Blount, J. G	Washington	1893
Blue, K. A	Laurinburg	1892

Boaz, Thos. A.	Stoneville	1894
Bobbitt, W. H.	Marion, Ind.	1883
Boddie, N. P.	Durham	1883
Bolton, Mayland	Rich Square	1885
Boyte, E. C.	Mount Holly	1898
Booth, S. D.	Oxford	1885
Booth, J. W.	Stem	1890
Booth, T. L.	Oxford	1890
Bowen, W. D.	Bath	1895
Brevard, R. J.	Charlotte	1887
Broadnax, J. G.	Greensboro	1888
Brown, F, W., (D)	Greenville	1884
Brown, G. A.	Bear Poplar	1898
Brown, J. S.	Salisbury	1895
Brown, Zeno	Greenville	1885
Brownson, W. C.	W. Asheville	1896
Bullock, W. B.	Scranton, Pa.	1893
Bullock, D. W.	Wilmington	1875
Burbank, T. S.	Wilmington	1880
Burroughs, J. A.	Asheville	1884
Burrus, J. S.	Rockford	1898
Bynum, Jno.	Winston	1896
Caldwell, D. G.	Concord	1885
Campbell, J. I	Mint Hill	1898
Campbell, James R.	Newton	1898
Carr, A. G.	Durham	1873
Champion, C. C.	Moorosboro	1898
Cheatham, A.	Durham	1888
Cheatham, Goode	Henderson	1896
Cheatham, W. T.	Henderson	1868
Chenault, W. F.	Elmwood	1891
Clarke, F. M.	Beaufort	1897
Cobb, W. H., Jr.	Goldsboro	1890
Cobb, W. H. H.	Goldsboro	1878
Coggeshall, G. A.	Oxford	1897
Costner, Thos. F.	Lincolnton	1897
Cotten, A. T.	Morrisville	1885
Covington. J. M.	Rockingham	1879
Cox, B. T.	Redalia	1888
Cox, E. L.	Jacksonville	1892
Cox, J. J.	High Point	1879
Cox, R. E.	Fremont	1894
Croom, J. D.	Maxton	1887
Crouse, W. L.	Lincolnton	1887
Crowell, A. J.	Charlotte	1894
Crowell, L. A.	Crimsic	1898

Crowell, Sam'l McK	Madge	1898
Crowell, W. H	Poortith	1896
Dalton. D. N	Winston	1896
Davidson, John E. S	Hopewell	1898
Davidson, W. Sinclair	Triangle	1898
Davis, R. L	Bryson City	1893
DeArmond. J. Mc	Mint Hill	1887
Dixon. Joseph	Ayden	1895
Dodd, G. H	Clayton	1887
Dodson, H. H	Milton	1886
Dorsett, H. W,	Bethany	1885
Doughton, Geo	No. Wilkesboro.	1896
Duffy, Charles	Newbern	1870
Duffy, Francis	Newbern	1872
Duguid, J. W	Dover	1897
Egerton, J. W	Hendersonville	1890
Everington, Geo. D	Laurinburg	1898
Edwards, G. C	Hookerton	1883
Edwards, J. D	Siler City	1894
Faison, I. M,	Charlotte	1878
Faison, J. A	Bennettsville, S. C	1888
Faison, J. M	Faison	1885
Faison, W. W	Goldsboro	1883
Faucett, T. S	Burlington	1896
Fearington, J. P	Winston	1890
Fearing, W. B	Poplar Branch	1889
Fitch, W. E	Charleston, S. C	1892
Fitzgerald, J. Y	Monroe	1891
Fletcher, G. W	Fletchers	1881
Fletcher, M. H	Asheville	1881
Flippin, J. M	Salisbury	1893
Flippin, S. T	Siloam	1898
Fox, M. F	Gilmer's Store	1885
Fowlkes, W. M	Rockingham	1898
Foote. G. A	Warrenton	1858
Freeman, W. G	Murfeesboro	1884
Fulp, E	Fulp	1896
Futrell, M. H	Conway	1884
Galloway, W. C.	Wilmington	1880
Gates, F. P	Manteo	1892
Glenn, Eug. B	Asheville	1898
Gibbon, John H	Philadelphia	1893
Gibbon, Robert (d)	Charlotte	1851
Gibbon, R. L	Charlotte	1890
Gibson, M. W	Taylorsville	1893

Gill, Robert J.	Henderson	1883
Gilmer, C. S.	Greensboro	1894
Gilreath, F. H.	Moravian Falls	1898
Goelet, E. B.	Saluda	1888
Goley, W. R.	Graham	1893
Goodman, E. G.	El Paso	1892
Goodwin, A. W.	Raleigh	1887
Gordon, J. R.	Jamestown	1894
Gove, Anna M.	Greensboro	1896
Grady, J. C.	Magnolia	1888
Graham, Geo. W.	Charlotte	1877
Graham, Joseph	Charlotte	1874
Graham, W. A.	Charlotte	1890
Gray, R. F.	Winston	1896
Grimes R. J.	Bethel	1893
Grimsley, J. E.	Snow Hill	1884
Grissom, Eugene	Pueblo, Col.	1859
Hadley, J. M.	LaGrange	1873
Haigh, T. D.	Fayetteville	1874
Hallsey, B. F.	Roper	1894
Hargrave, R. H.	Robersonville	1879
Harper. M. W.	Dunn	1886
Harrell, W. H.	Williamston	1890
Harrell, W. J.	Aulander	1892
Harris, A. H.	Wilmington	1894
Harris, F. R.	Henderson	1883
Harris, H. H.	Wake Forest	1886
Harris, Joy	Burlington	1898
Hassell, S.	Plymouth	1893
Hays, B. K.	Oxford	1897
Haywood, F. J.	Raleigh	1868
Headen, W. E.	Morehead City	1891
Henley, S. A.	Asheboro	1888
Hemphill, W. E.	Arden	1898
Herring, N. B.	Wilson	1888
Herron, A. M.	Charlotte	1884
Hester, J. R.	Prospect Hill	1894
Highsmith, Chas.	Parkersburg	1898
Hill, D. J.	Lexington	1894
Hill, Joel	Lexington	1886
Hill, L. H.	Germanton	1877
Hill, Thomas	Goldsboro	1879
Hines, P. E.	Raleigh	1855
Hodges, J. A.	Richmond, Va.	1885
Hodges, J. M.	LaGrange	1883
Hollingsworth, W. K.	Mt. Airy	1893
Holmes, Alman	Clinton	1852

Holmes, F. H	Clinton	1896
Holt, W. T	Donnahu	1896
Hornaday, E. H	Willow Green	1878
Houck, Albert	Lenoir,	1893
Hudson, W. L	Dunn	1883
Hughes, G. R	Pollocksville	1894
Hunter, L. W	Sardis	1880
Ingram, C. B	Mt. Gilead	1892
Irwin, J. R	Charlotte	1882
Ivie, G. M	Stoneville	1894
Ivie, W. P	Lenoir	1891
Jackson, C. C	Plymouth	1896
Jenkins, C. L	Conetoe	1894
Jenkins, J. D	Crisp	1894
Jenkins, R. E	Belmont	1898
Jewett, R. D	Winston	1890
Johnson, H	Grifton	1892
Jones, Clara E	Goldsboro	1897
Jones, C. M	Grimesland	1895
Jones, Clarence Porter	Benson	1898
Jones, J. W	Tarboro	1860
Jones, S. B	Charlotte	1879
Jones, W. J	Goldsboro	1860
Jones, W. J	Outlaw's Bridge	1898
Jones, W. J., Jr	Goldsboro	1894
Jordan, T. M	Hookerton	1881
Julian, C. A	Thomasville	1893
Kent, A. A	Lenoir	1894
Kerr, J. E	Pee Dee	1898
King, O. D	Albemarle	1887
Kirby, Geo. L	Raleigh	1867
Kirkpatrick, W. L	Crabb Tree	1895
Klutz, E. E	Troutman	1896
Knight, J. B. H	Williamston	1891
Knight, W. P	Oak Ridge	1898
Knox, A. W	Raleigh	1880
Kornegay, Jas. W	Mt. Olive	1896
Lafferty, J. S	Concord	1890
Laird, E. C	Haw River	1890
Lane, W. W	Wilmington	1870
Laughinghouse, C. O'H	Greenville	1894
Lawing, J. M	Lincolnton	1887
Laxton, J. L	Morganton	1891
Leggett, K	Hobgood	1885

Lewis, C. H	Farmer	1894
Lewis, G. W	Fremont	1888
Lewis, H. W	Jackson	1887
Lewis, R. H	Raleigh	1877
Lilly, W. H	Concord	1874
Linville, A. Y	Salem	1896
Littlejohn, E. M	Thomasville	1896
Loftin, P. B	Grifton	1890
Logan, J. E	Greensboro	1894
Long, B. L	Hamilton	1883
Long, F. L	Catawba	1898
Long, Geo. W	Graham	1877
Long, J. W	Salisbury	1884
Lott, H. S	Winston	
Love, S. J	Long's Store	1898
Love, Wm. J	Wilmington	1870
Lumsden, W. J	Elizabeth City	1888
Mangum, Chas. S	Chapel Hill	1898
McAnally, Chas. B	Madison	1896
McBrayer, T. E	Shelby	1898
McCain, W. R	McCain's	1898
McClure, S. C		1886
McDonald, A. D	Wilmington	1879
McDougald, A	Hope Mills	1888
McDowell, W. O	Scotland Neck	1883
McDuffie, W. C	Fayetteville	1876
McGeachy, R. S	Raleigh	1895
McGee, J. W	Raleigh	1885
McGee, J. W., Jr	Raleigh	1888
McKee, James	Raleigh	1870
McKenzie, W. W	Salisbury	1894
McKinnon, Arch	Chadbourn	1888
McLauchlin, J. E	Cool Spring	1896
McLean, N. M	Gibson's Station	1885
McMillan, B. F	Plain View	1884
McMillan, J. D	Lumberton	1876
McMullan, Oscar	Elizabeth City	1889
McMullan, T. S	Hertford	1892
McMullen, J. H	Edenton	1874
McNeill, J. W	Fayetteville	1876
McPherson, I. W	Liberty	1898
Marsh, J. H	Fayetteville	1890
Matthews, T. A	Castalia	1895
Mayo, W. R	Fort Wayne, Ind	1892
Meisenheimer, C. A	Charlotte	1882
Meisenheimer, T. F	Morven	1881

Miller, J. F.	Goldsboro	1873
Mills, R. W.	Troutman	1892
Minor, Chas. L	Asheville	1898
Monroe, W. A.	Sanford	1888
Montague, S. J.	Winston	1880
Montgomery, J. C.	Charlotte	1895
Montgomery, S. L.	Concord	1885
Moore, C. E.	Wilson	1875
Moore, E. G.	Elm City	1890
Moore, R. A.	Durham	1893
Moran, G. H.	Morganton	1888
Morrill, Jenness	Falkland	1888
Mosby, Chas. W.	Kapp's Mills	1896
Moye, E. A.	Greenville	1897
Munroe, J. P.	Davidson	1890
Murphy, P. L.	Morganton	1875
Murphy, W. E.	Carr	1895
Myers, J. A.	Lexington	1894
Nelson, R. J.	Robersonville	1893
Nichols, C. G.	Roxboro	1891
Nicholson, J. L.	Richlands	1880
Nicholson, W. H.	Louisburg	1893
Noble, R. J.	Selma	1878
O'Donoghue, D.	Charlotte	1887
O'Hagan, Chas. J.	Greenville	1860
O'Kelley, J. M.	Williams' Mill	1885
Palmer, R. W.	Gulf	1891
Parker, Jas. R.	Menola	1898
Parris, D. C.	Hillsboro	1887
Parrott, James M.	Kinston	1896
Pate, W. T.	Gibson's Station	1885
Patterson, A J.	Liberty	1892
Patterson, R. A.	Aurelian Springs	1887
Payne, R. L.	Norfolk, Va	1881
Pemberton, W. D.	Monroe	1887
Perry, M. P.	Macon	1884
Pfohl, S. F.	Salem	1898
Pharr, T. F.	Concord	1881
Pharr, W. W	Newell	1885
Picot, L. J.	Littleton	1875
Poole, C. M.	Craven	1880
Pool, J. H.	South Mills	1897
Potts, Fred. L	Vanceboro	1896
Powell, W. E.	Castoria	1885

Pressly, G. W.	Charlotte	1896
Primrose, R. S.	Newbern	1897
Prince, D. M.	Laurinburg	1879
Pritchard, W. B.	355 W. 58th St., N. Y.	1884
Pugh, E. W.	Windsor	1885
Purefoy, G. W.	Asheville	1884
Ramsay, J. G.	Salisbury	1855
Ramseur, George A.	China Grove	1898
Ray, John B.	Leaksville	1898
Ray, J. L.	Burnsville	1890
Reagan, J. A.	Weaverville	1881
Reeves, B. E.	Lamar	1896
Register, E. C.	Charlotte	1887
Reid, W. K.	Pineville	1896
Reitzel, J. R.	Woodleaf	1896
Renn, G. A.	Raleigh	1893
Reynolds, Carl V.	Asheville	1896
Ricks, L. E.	Parmele	1898
Rierson, R. L.	Elks	1898
Rieves Jas. T.	Julian	1883
Ritter, F. W.	Moyock	1885
Roberson, C. N.	Ascend	1893
Roberson, D. A.	Guilford College	1894
Robertson, J. B.	Clayton	
Robinson, G. J.	Smithfield	1884
Robinson, M. E.	Goldsboro	1886
Rodgers, W. A.	Franklin	1898
Rodman, J. C.	Washington	1895
Rodwell, J. W.	Cana	1896
Royster, H. A.	Raleigh	1895
Royster, T. S.	Townesville	1883
Royster, W. I.	Raleigh	1871
Ruffin, J. K.	Wilson	1860
Russell, E. R.	Hickory	1898
Russell, F. H.	Wilmington	1895
Saine, Jno. W.	Lincolnton	1895
Sanderford, J. F.	Creedmore	1891
Sawyer, Chas. J.	Belcross	1897
Schaub, O. P.	Culler	1898
Seawell, F. H.	Earpsboro	1893
Sexton, J. A.	Raleigh	1879
Shaffner, J. F.	Salem	1867
Shamberger, J. B.	Star	1892
Shepard, J. C.	Wilmington	1880
Siewers, N. S.	Salem	1877
Sikes, G. T.	Grissom	1884

Sinclair, Duncan	Rowland	1888
Smith, Duncan	Athens	1888
Smith, G. A	Siler City	1894
Smith, J. B	Pilot Mountain	1896
Smith, R. A	Goldsboro	1882
Smithwick, J. W. P	LaGrange	1898
Snipes, E. P	Jonesboro	1890
Spainhower, E. H	Jolliet	1898
Speight, R. H	Wrendale	1875
Spencer, W. O	Yanceyville	1894
Stafford, W. G	Burlington	1888
Stancell, R. H	Margarettsville	1887
Stansill, J. M	Rockingham	1879
Stanton, D. A	High Point	1891
Steele, W. C	Mt. Olive	1894
Stevens, J. A	Clinton	1883
Stevens, M. L	Enochville	1893
Stevens, S. A	Monroe	1898
Stewart, J. F	Red Shoals	1898
Strong, C. M	Charlotte	1898
Stroud, O. B	Ore Hill	1894
Street, N. H	Newbern	1883
Strickland, E. F	Bethania	1893
Strickland, J. T	Nashville	1895
Sugg, E. H	Snow Hill	1895
Summerell, E. M	Mill Bridge	1883
Summers, Chas. L	Winston	1896
Sutton, W. G	Winston	1896
Tate, R. W	Greensboro	1887
Tayloe, D. T	Washington	1885
Tayloe, Joshua	Washington	1893
Taylor, H. L	St. Paul, Minn	1871
Taylor, J. M	Morganton	1883
Taylor, W. S	Mt. Airy	1894
Teague, R. J	Roxboro	1898
Tenant, G. S	Asheville	1898
Thames, John	Lexington	1895
Thomas, Geo. Gillett	Wilmington	1871
Thomas, Herbert B	Newbern	1898
Thomas, R. W	Thomasville	1880
Tucker, J. H	Henderson	1878
Tull, Henry	Kinston	1876
Turlington, W. E	Benson	1876
Turlington, W. T	Fremont	1895
Turner, J. A	High Point	1891
Turner, J. M	Wilkesboro	1896

Utley, B. S.	Holly Springs	1886
Vestal, W. J.	Tyro Shops	1894
Vick, J. W.	Selma	1873
VonRuck, Karl	Asheville	1891
Wakefield, W. H.	Charlotte	1893
Waldrop, J. G.	Hendersonville	1891
Walker, C. E.	Huntersville	1894
Walton, J. C.	Reidsville	1879
Watson, D. J.	Southport	1894
Watson, J. A.	Asheville	1891
Way, J. Howell	Waynesville	1887
Weaver, H. B.	Asheville	1881
West, G. H.	Newton	1895
Wharton, L. D.	Smithfield	1894
Whitaker, R. A.	Trenton	1885
Whitehead, F. W.	Scotland Neck	1895
Whitehead, John	Salisbury	1880
Whitehead, W. H.	Rocky Mount	1875
Whitehead, R. H	Chapel Hill	1891
White, J. W.	Wilkesboro	1890
Whiteside, R. F.	Hickory	1881
Whitfield. W. C.	Quinerly	1884
Whitley, D. P.	Millingport	1898
Williams, B. B.	Keyser	1893
Williams, H. C.	Aberdeen	1893
Williams, J. A.	Prospect Hill	1898
Williams, J. D.	Lewisville	1898
Williams, T. B.	Ridgeway	1893
Wilson, A. R.	Greensboro	1882
Winborne, R. H (D.)	Barnitz	1857
Wood, Wm. R.	Scotland Neck	1867
Woodley, C. B.	Kinston	1888
Woody, S. P.	Spring Creek	1848
Wooten, W. H.	Davidson	1898
Wright, S. P.	Wilmington	1892
York, A. D.	Morrisville	1885
Young, R. S.	Concord	1882

INDEX.

Roster of Officers v
Roster of Members of Board of Examiners vi
Officers and Committees for 1898 viii
Minutes ix
President's Address 1
Annual Oration—Two Pioneer Heroes in Surgery and Gynecology 10
Annual Essay—The Under Side of Things in a Doctor's Life 17
The Tobacco Habit as a Cause of Disease 24
Report on Practice of Medicine 30
A Few Suggestions on the Prevention of Tuberculosis 36
Meddlesome Gynecology 48
Report on Obstetrics 56
Three Interesting Cases of Obstetrics 62
The Chemistry of the Stomach 65
Veratrum Viride: with Especial Reference to Its Therapeutic Uses in Serous and Parenchymatous Inflammations 73
The Country Surgeon and His Work 77
Some Observations on the Radical Cure of Inguinal Hernia with Report of an Unusual Case 84
A Shawl Pin in the Trachea 87
Expert Medical Witnesses: What is the Cause of the Disrepute in Which Their Testimony is Held in Certain Recent Cases in the Courts? Observations from the Standpoint of the Country Doctor 92
Excision of the Gall Bladder for Impacted Gall-Stone 101
Some Thoughts About Typhoid Fever 103
Treatment of the Umbilical Cord Without Ligature 110
Report on Medical Jurisprudence and State Medicine 116
Report on Pathology and Microscopy 124
A Plea for Conservatism in the Treatment of Abortion 128
What Should be the Attitude of the General Practitioner Towards Serum Therapy? 136
Modern Therapeutics 149
Uric Acid in the Causation of Retinal and Choroidal Disease 156
A Case of Osteosarcoma Treated with the Toxines of Erysipelas and Bacillus Prodigiosus 162
Annual Report of the Secretary of the State Board of Health 167
Constitution and By-Laws x
Code of Medical Ethics xvii
Roster of Members in Order of Signing Constitution xxxii
Roster of Members Alphabetically Arranged xl

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